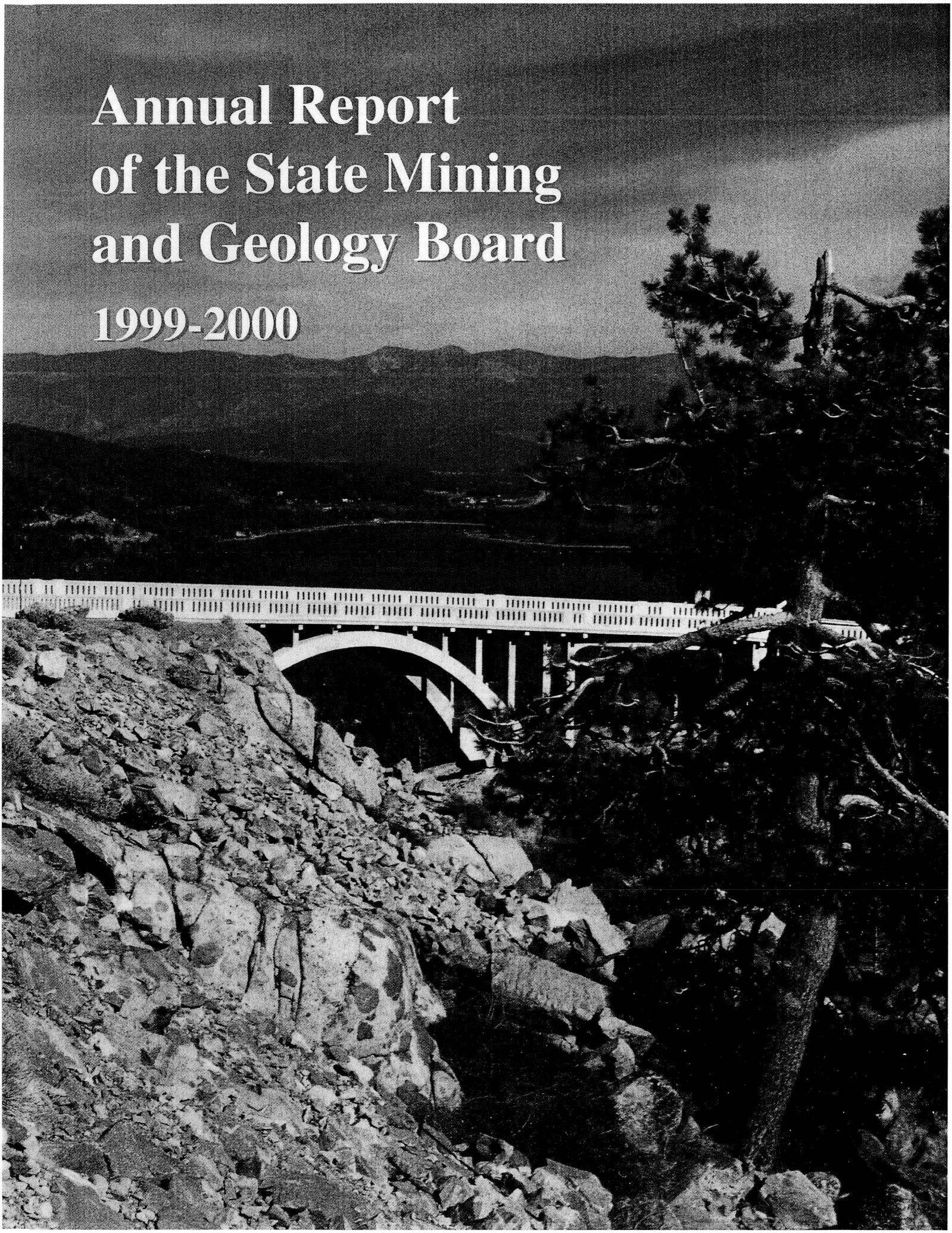
Annual Report of the State Mining and Geology Board

1999-2000



Gray Davis
Governor
State of California

Mary Nichols
Secretary
Resources Agency

Darryl Young
Director
Department of Conservation

Cover photo: View of Donner Lake, looking east, with Interstate 80 in the foreground.
Photo by Max Flanery, DMG.

ANNUAL REPORT
of the
STATE MINING AND GEOLOGY BOARD

1999-2000

BOARD MEMBERS

Robert E. Grunwald, Chairman
Charles Buckley
Robert Griego
Allen M. Jones
Robert Munro
Richard Ramirez

EXECUTIVE OFFICER

John G. Parrish, Ph.D.

EXECUTIVE ASSISTANT

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State Mining and Geology Board
801 K Street, MS 24-05
Sacramento, California 95814

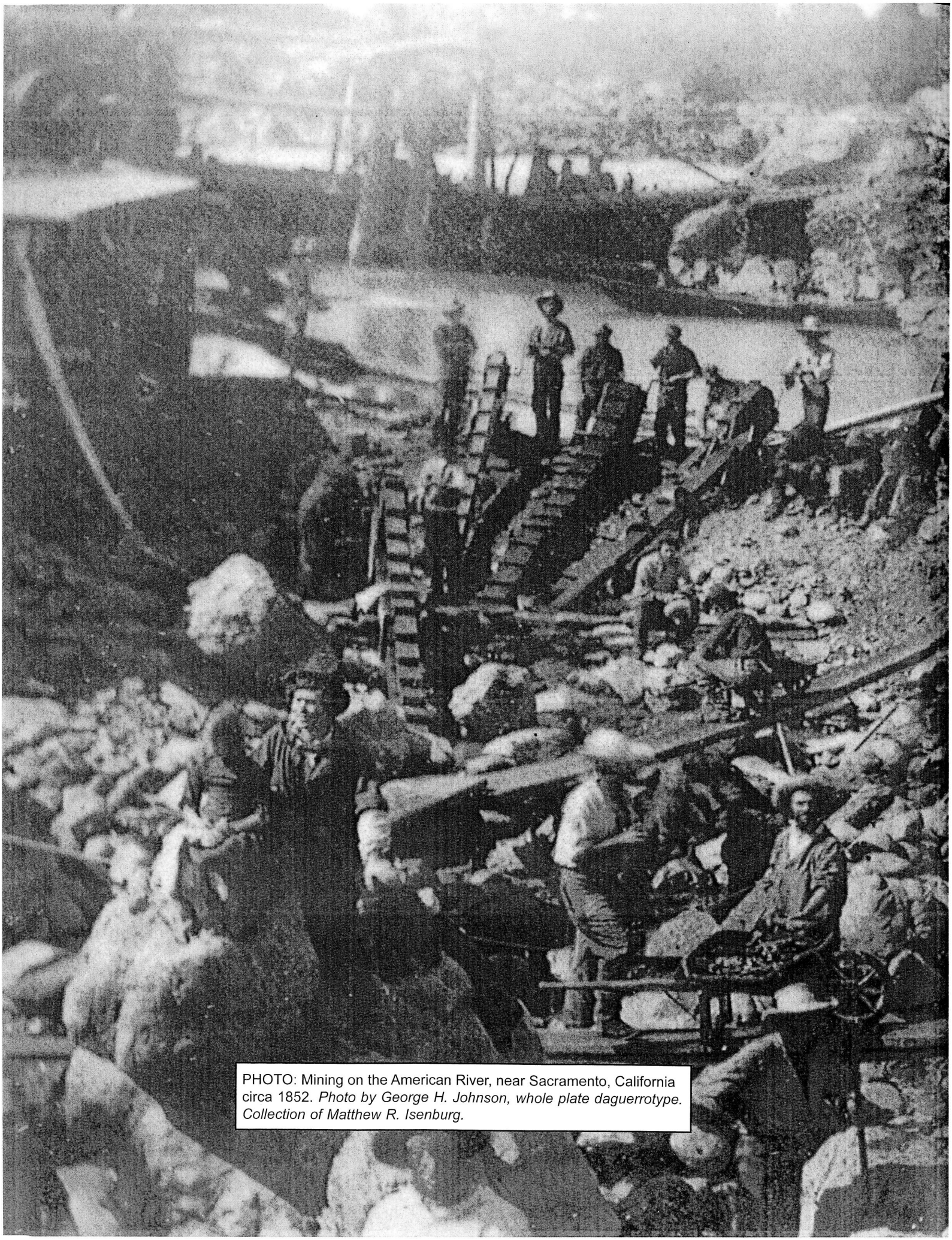

PHOTO: Mining on the American River, near Sacramento, California circa 1852. *Photo by George H. Johnson, whole plate daguerrotype. Collection of Matthew R. Isenburg.*

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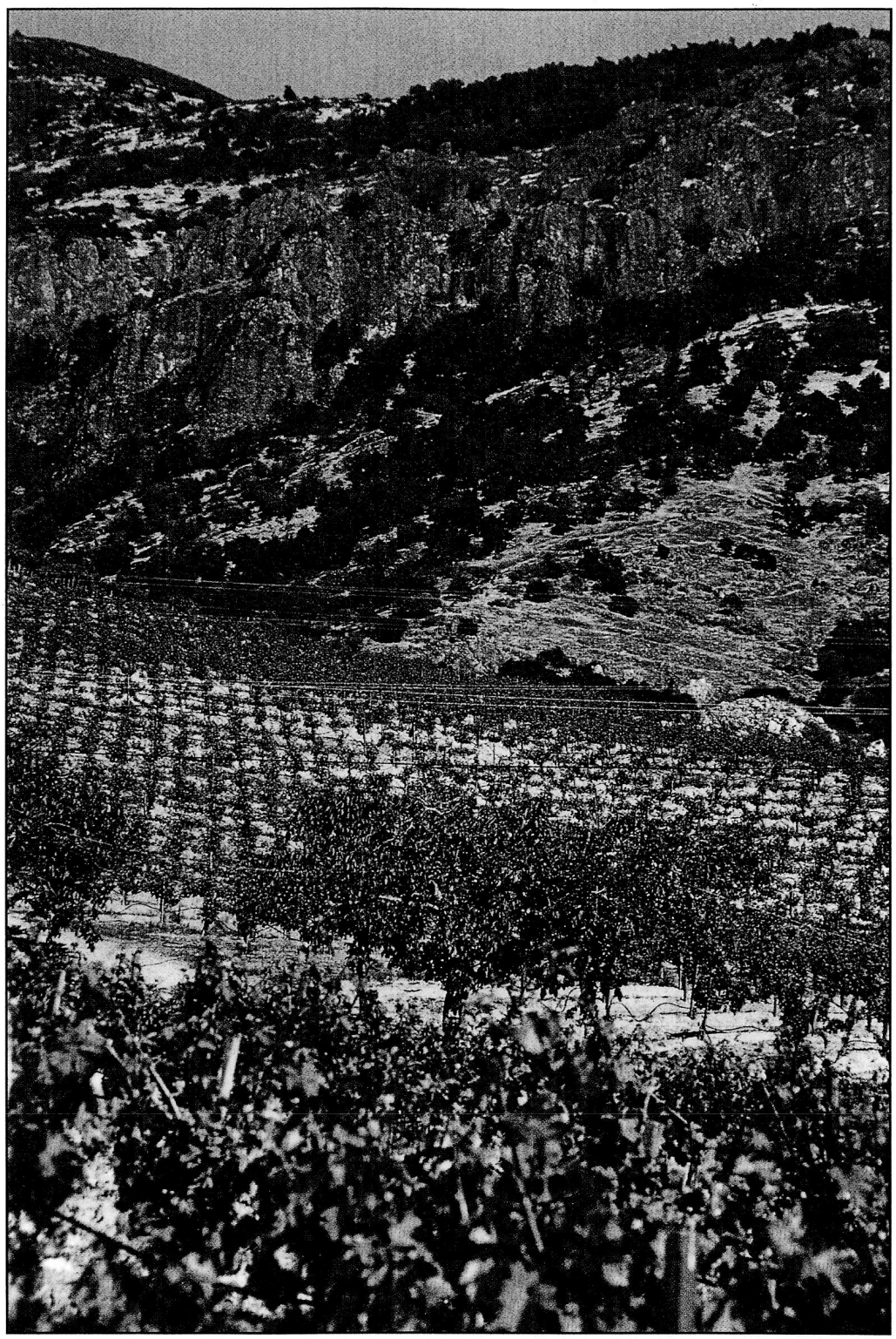


Looking eastward toward Atlas Peak of the Vaca Mountains, the range of hills that flanks the east side of the Napa Valley. The photo is from the May/June 2000 CALIFORNIA GEOLOGY magazine. The article discusses the important roles geology and soils, along with the unique climate of the Napa Valley, play in producing the notable wines of the region. *Photo by David Howell.*

ANNUAL REPORT
of the
STATE MINING AND GEOLOGY BOARD
1999-2000

OVERVIEW

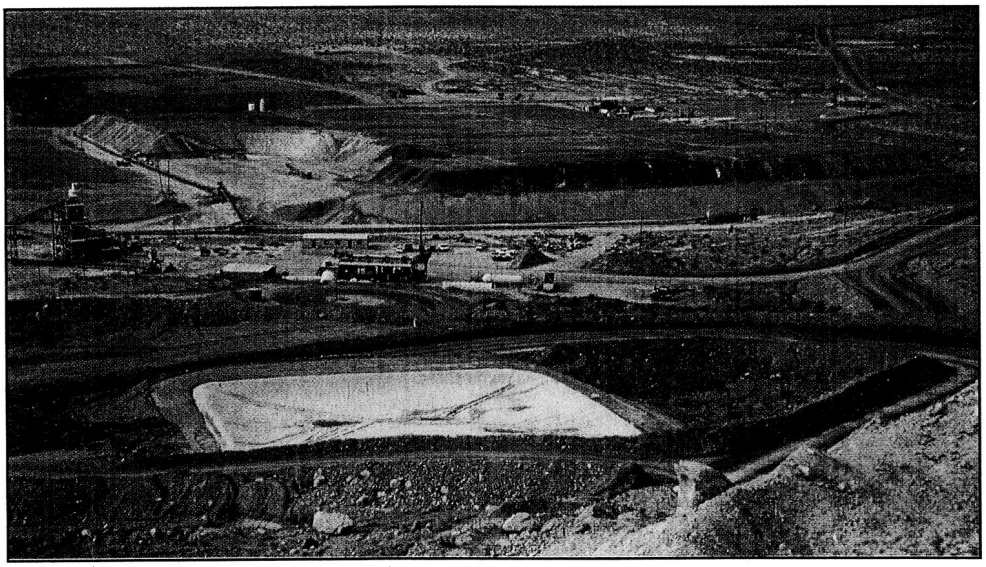
The *Annual Report of the State Mining and Geology Board* is prepared for both the State Legislature and the Governor, as provided for in statute [ref. Public Resources Code (PRC) Section 674 and 2717]. Reporting periods run on a fiscal calendar between July 1st of 1 year to June 30th of the following year.

Implementing the Surface Mining and Reclamation Act of 1975 (SMARA, Act) continued to occupy the majority of the Board's time between July 1999 and July 2000.

There are now 130 SMARA lead agencies in California, an increase of one over the previous reporting period. Lead agencies (cities and counties with surface mines within their jurisdictions) have primary responsibility for implementing SMARA. Each of these lead agencies must have a surface mining ordinance certified by the Board as being in accordance with the Act. During the 1999-2000 reporting period, the Board reviewed and re-certified the updated SMARA ordinances for 41 lead agencies (about 3.5 ordinances per month).

At the end of this reporting period (June 30, 2000) the Board had responsibilities for reviewing and approving reclamation plans for 20 lead agencies with deficient ordinances, and was exercising full SMARA authority for seven other jurisdictions that possessed no SMARA ordinances.

In March 2000, the Board assumed the authority for conducting annual surface mine inspections for El Dorado County. Inspection authority will last for a minimum of 3 years. This was the first time the Board exercised its authority under PRC 2774.4.



Canyon Resources Corporation's C.R. Briggs gold processing facility, on the west slope of the Inyo Mountains (Inyo County). *Photo by Mike Morgan.*

Throughout the reporting period, the California Department of Conservation issued 13 administrative penalties to individual surface mine operators. Three of these operators appealed their penalties to the Board. In these three cases, the Board upheld the grounds for the penalties.

One exemption from the requirements of SMARA was granted by the Board under PRC Section 2714(f). It was made to an operator who proposed to remove a small, abandoned gypsum stockpile and use the material for nearby agricultural soil needs.

Also, the Board reviewed and accepted five Open-File Reports prepared by the Division of Mines and Geology dealing with mineral classification throughout the state. Additionally, the Board adopted a revised version of its *Guidelines for Classification and Designation of Mineral Lands.*

The remainder of the Board's actions was focused on geological hazards. The Geohazards Committee of the Board conducted public hearings in San Francisco and Los Angeles on ten Preliminary Seismic Hazard Maps released in May and June 2000. The Board also adopted *Guidelines for Engineering Geologic Reports for Timber Harvest Plans* (Division of Mines and Geology Note 45).

The Board restates in its Observations and Recommendations areas where it believes the Legislature should address the Surface Mining and Reclamation Act of 1975 to make the Act more efficient and effective in carrying out the Legislature's stated intentions of the Act.

Also, the Board recommends that consideration be given to providing a steady and reliable funding source that will allow continued mapping activities under the Seismic Hazards Mapping Act.

The Minarets (12,281 feet) and Minaret Lake, Inyo National Forest, California. The minarets are strikingly jagged because they projected above the flow of the Pleistocene glaciers. *Photo by James W. Carlblom.*

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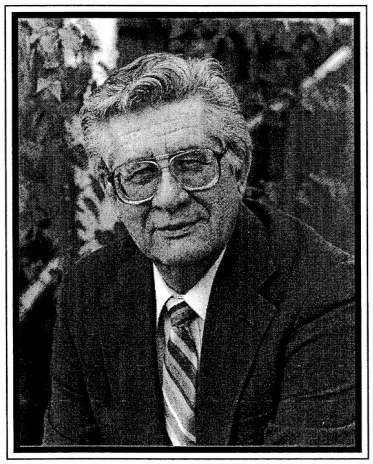
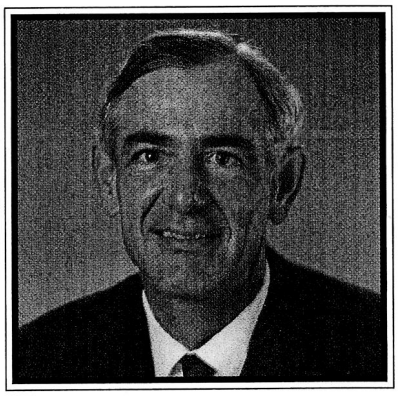
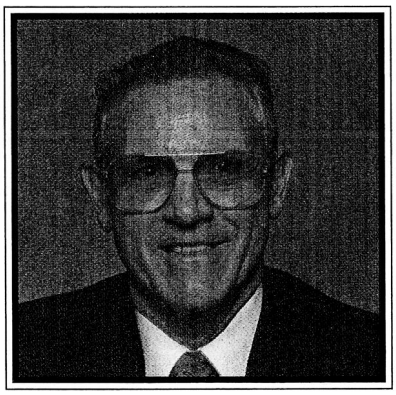
MEMBERS OF THE BOARD



Robert E. Grunwald, Chairman

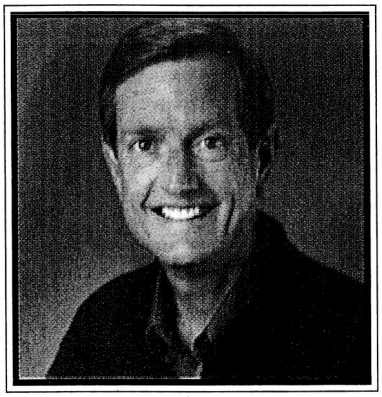


Charles Buckley



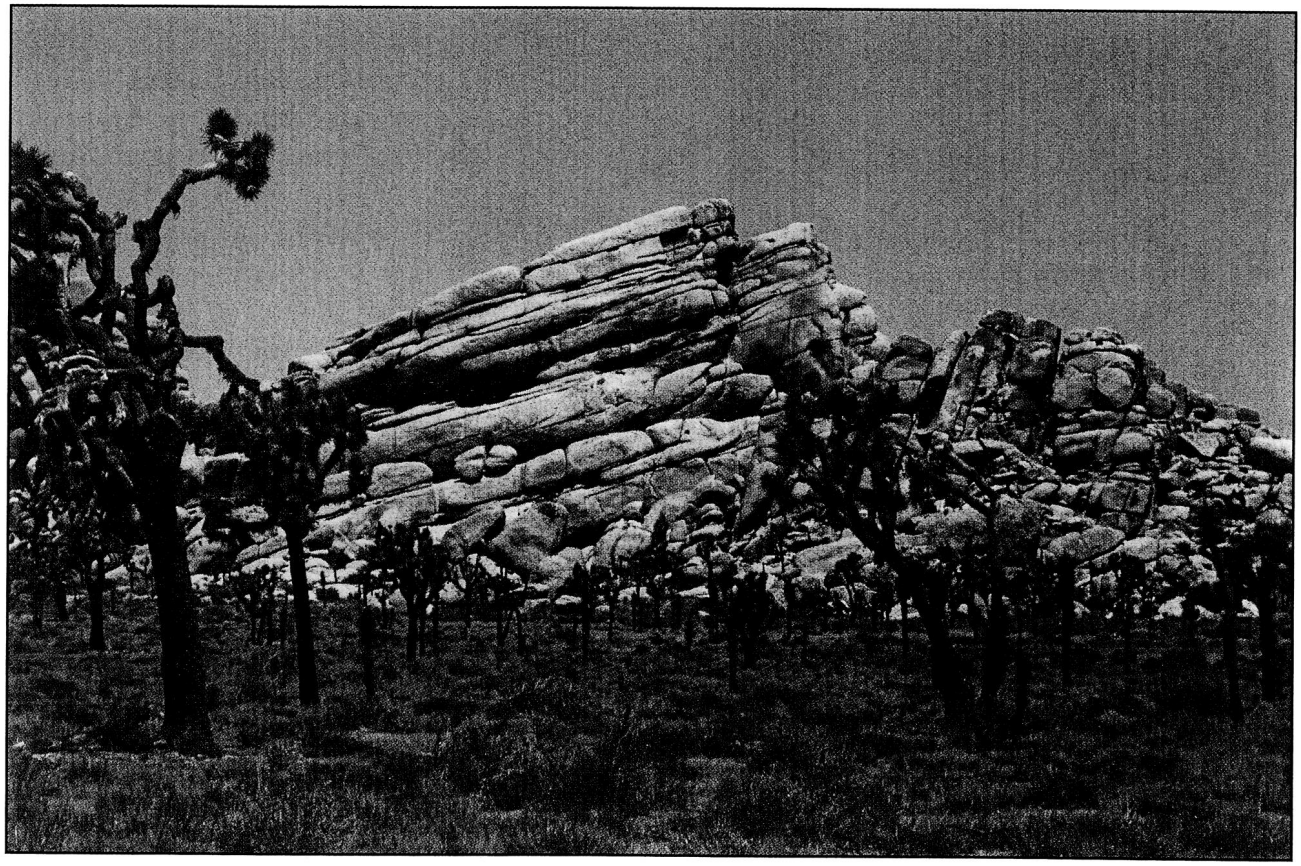
Robert Munro

Richard Ramirez



Allen M. Jones

Robert Griego



Inselbergs at Hidden Valley Campground in Joshua Tree National Park, San Bernardino and Riverside Counties, California. *Photo by D.D. Trent*

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INTRODUCTION

ORGANIZATION AND RESPONSIBILITIES OF THE BOARD

The *State Mining and Geology Board* (SMGB) was established in 1885 as the *SMGB of Trustees*. Its purpose was to oversee the activities of the State Mineralogist and the Bureau of Mines (now the Division of Mines and Geology, the state's geological survey), which were created by the Legislature five years earlier. The general policy for the Division is established by the SMGB. These responsibilities recognize the impacts that California's complex geology, large amounts of federally managed lands, high mineralization, and potential for geologic hazards have on the state's economy, land use, and public safety.

Today's SMGB is composed of nine members appointed by the Governor, and confirmed by the Senate, for four-year terms. By statute, SMGB members must have specific professional backgrounds in geology, mining engineering, environmental protection, groundwater hydrology and rock chemistry, urban planning, landscape architecture, mineral resource conservation, and seismology, with one non-specialized member representing the public.

To enable the SMGB to meet its responsibilities most effectively, it has established standing committees to gather information and formulate recommendations on a variety of topics. These committees include the Geohazards Committee, the Interboard Coordinating Committee, the Mineral Conservation Committee, the Mine Reclamation Standards Committee, and the Policy Committee. The full SMGB and these committees meet in regularly scheduled sessions each month.

The SMGB has one active advisory group that is the Seismic Hazards Mapping Act Advisory Committee (SHMAAC). This subcommittee reports to the SMGB through the Geohazards Committee and is involved with the production and modifications to the *Guidelines for Evaluating and Mitigating Seismic Hazards in California* (DMG Special Publication 117). The subcommittee is composed of ten professional members with various scientific, engineering, governmental, and business specialties. The subcommittee members are part time, and are not paid for their services.

The SMGB operates within the Department of Conservation and is granted certain autonomous responsibilities and obligations under several statutes. The SMGB's general authority is granted under Public Resources Code (PRC) Sections 660-678. Specifically, PRC Section 662(b) requires all SMGB members to "represent the general public interest." The SMGB serves as a regulatory, policy and appeals body representing the state's interests in geology, geologic and seismologic hazards, conservation of mineral resources and reclamation of lands following surface mining activities.

ALQUIST-PRIOLO EARTHQUAKE FAULT ZONING ACT

Under this Act, the SMGB is authorized to represent the state's interests in establishing professional guidelines and standards for geological and geophysical investigations and reports produced by the Division of Mines and Geology, public sector agencies, and private practitioners. The SMGB, also, is authorized to develop specific criteria through regulations that shall be used by affected lead agencies in complying with the provisions of the Act so as to protect the health, safety and welfare of the public.

This Act (Public Resources Code, Chapter 7.5, Section 2621 through Section 2630) is intended to provide policies and criteria to assist cities, counties and state agencies in the exercise of their responsibilities to prohibit the location of developments and structures for human occupancy across the trace of active faults as defined by the SMGB. Further, it is the intent of this Act to provide the citizens of the state with increased safety and to minimize the loss of life during and immediately following earthquakes by facilitating seismic retrofitting to strengthen buildings, including historical buildings, against ground shaking.

Principal populations served:

- City, county and state agencies having jurisdictions over zoning ordinances, building codes, and general plan develop ments;
- Land developers and contractors;
- Division of Mines and Geology;
- Professional geological, geophysical, and engineering consulting community.

SEISMIC HAZARDS MAPPING ACT

Under this Act, the SMGB is authorized to provide policy and guidance through regulations for a statewide seismic hazard mapping and technical advisory program to assist cities, counties, and state agencies in fulfilling their responsibilities for protecting the public health and safety from the effects of strong ground shaking, liquefaction or other ground failure, landslides and other seismic hazards caused by earthquakes, including tsunami and seiche threats.

The Seismic Hazards Mapping Act (Public Resources Code Chapter 7.8, Section 2690 through Section 2699.6) establishes the authority to provide programs to identify and map seismic hazard zones in the state in order for cities and counties to adequately prepare the safety element of their general plans, and to encourage land use management policies and regulations that reduce and mitigate those hazards so as to protect public health and safety.

Principal populations served:

- City, county and state agencies having jurisdictions over zoning ordinances, building codes, and general plan developments;
- Land developers and contractors;
- Division of Mines and Geology;
- Professional geological, geophysical, and consulting community.

SURFACE MINING AND RECLAMATION ACT OF 1975

The extraction of minerals in a responsible manner is essential to the continued economic well-being of the state and to the needs of society, and the thoughtful reclamation of mined lands is necessary to prevent or minimize adverse effects on the environment and to protect the public health and safety.

Under these statutes, the SMGB is authorized to represent the state's interests in the development, utilization, and conservation of the state's mineral resources, the reclamation of mined

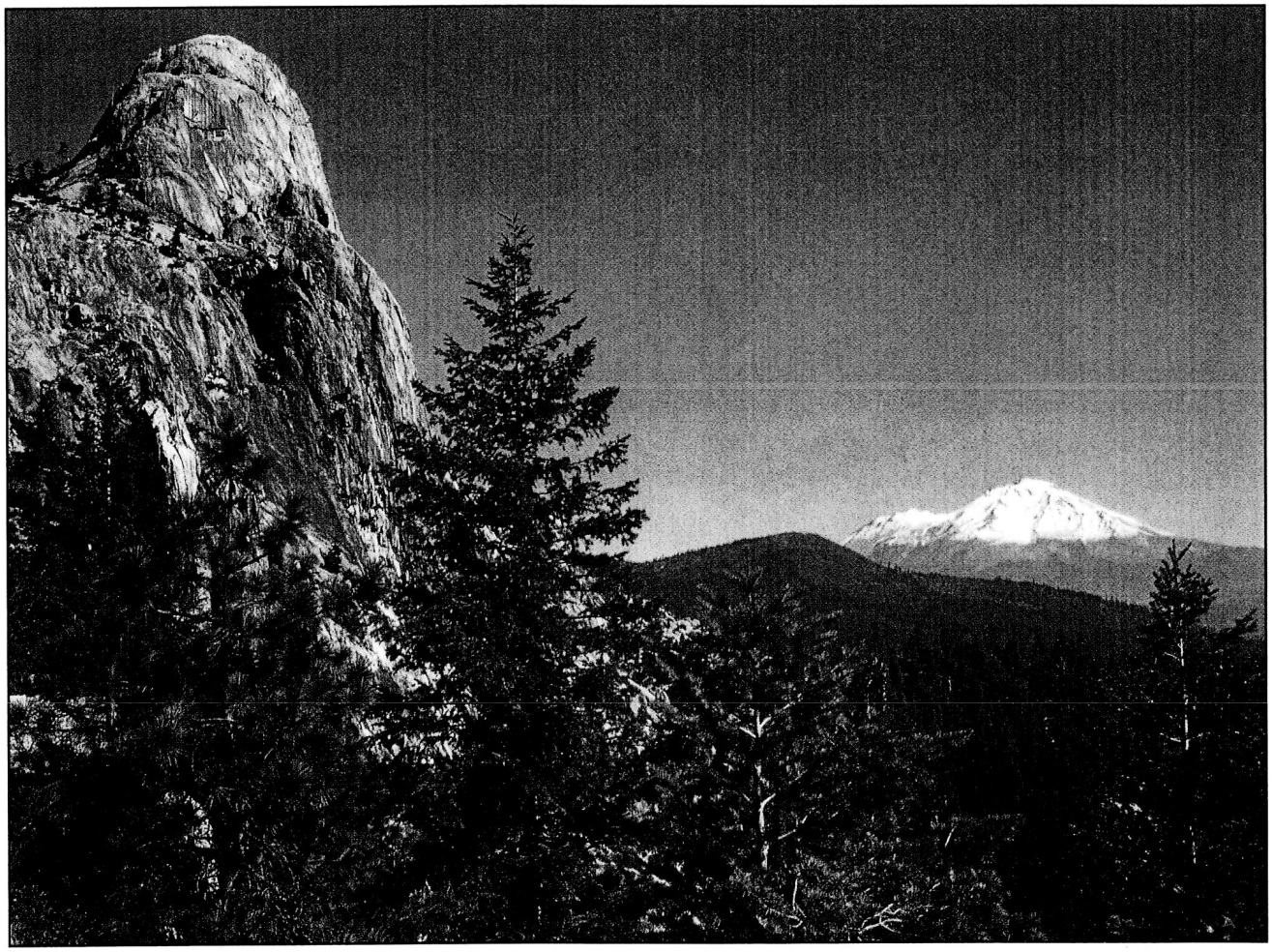
lands, and federal matters pertaining to surface mining within the state.

Principal populations served:

- 130 "Lead Agencies" (counties and cities), with authority over surface mining operations within their jurisdictions
- Over 1,400 reporting surface mining operations within the state
- Department of Conservation's Office of Mine Reclamation
- Department of Conservation's Division of Mines and Geology

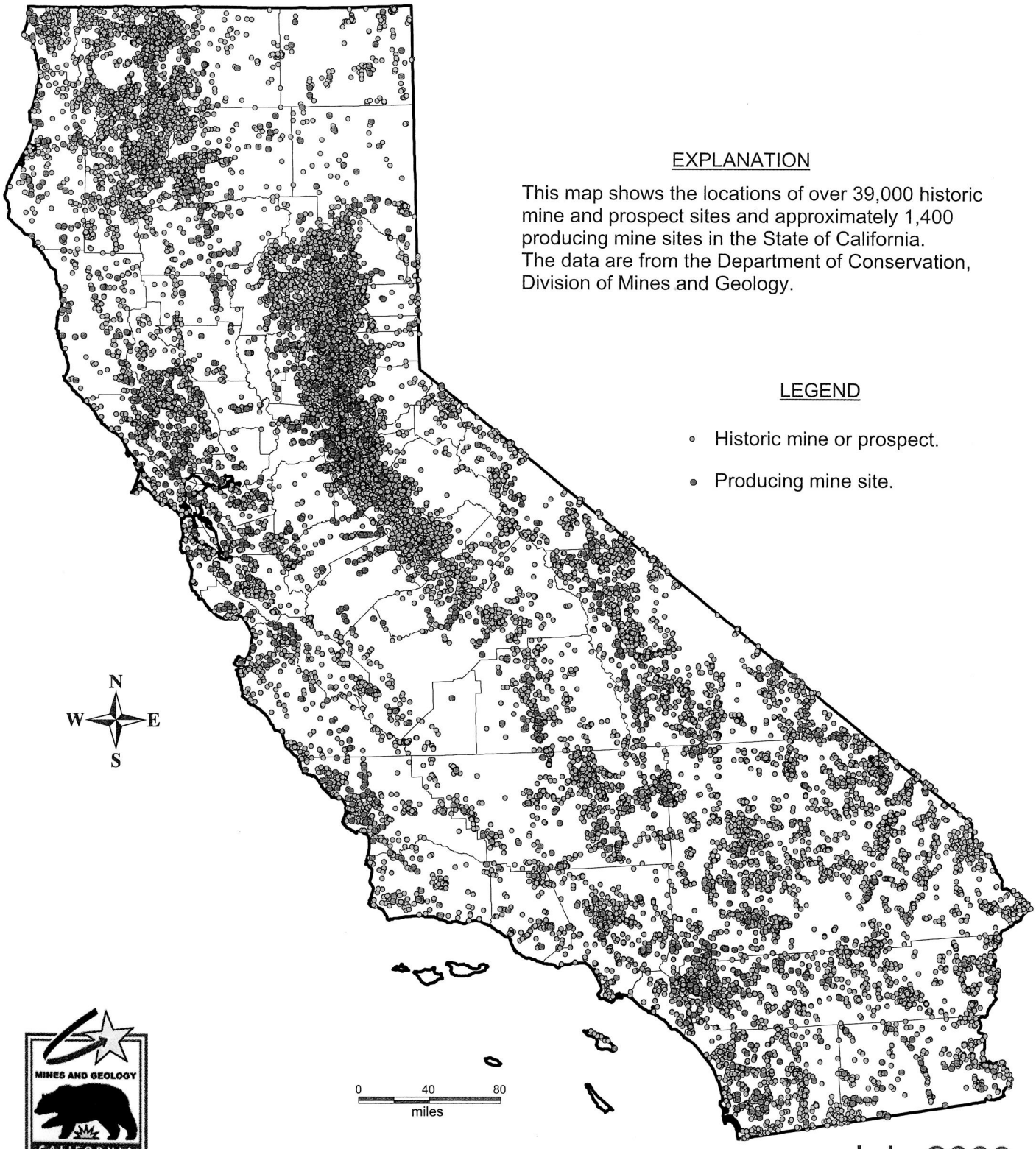
MISSION STATEMENT

"The mission of the State Mining and Geology Board is to represent the State's interest in the development, utilization and conservation of mineral resources; reclamation of mined lands; development and dissemination of geologic and seismic hazard information; and to provide a forum for public redress."



Castle Dome (left) and snow-covered Mt. Shasta (right), Castle Crags State Park, near Castella, Shasta County, California. Castle Dome is composed of Jurassic (162 to 175 million years old) granodiorite and trondhjemite. Its shape is due to jointing and to the process of exfoliation. Mt. Shasta is California's largest volcano.
Photo by James W. Carlblom.

Map of California Mines



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SURFACE MINING & RECLAMATION ACT OF 1975

The Surface Mining and Reclamation Act of 1975 (SMARA, Public Resources Code Sections 2710-2796) provides a comprehensive surface mining and reclamation policy with the regulation of surface mining operations to assure that adverse environmental impacts are minimized and mined lands are reclaimed to a usable condition. SMARA also encourages the production, conservation, and protection of the state's mineral resources. Public Resources Code Section 2207 provides annual reporting requirements for all mines in the state, under which the Board also is granted authority and obligations.

Scope of SMARA Authority

The Surface Mining and Reclamation Act of 1975 (SMARA, Act) provides for a three-tiered approach to accomplish its administration and enforcement.

The primary entity responsible for the Act's enforcement is the local "lead agency" — that is, the city or county in which a surface mine operates. The lead agency is responsible for seeing that all surface mine operations within its jurisdiction are in full compliance with the Act. SMARA prescribes specific responsibilities and powers to the lead agency.

Should a lead agency become incapable of, or fail to bring a surface mine operation into compliance with the Act, SMARA mandates that the Director of the California Department of Conservation (Director, DOC) enforce the Act and bring about compliance. SMARA prescribes specific responsibilities and powers to the Director. DOC also is responsible for providing technical reviews of reclamation plans and financial assurances to lead agencies to ensure that the requirements of SMARA have been addressed in the reclamation plans prior to their formal approval by the lead agency.

The third tier of enforcement lies with the State Mining and Geology Board (SMGB). Under the Act, the SMGB is provided authority to hear appeals of enforcement actions taken by the Director against surface mine operators, as well as appeals of certain decisions regarding reclamation plans and financial assurances taken by a lead agency. In addition, the SMGB is provided authority to take over a lead agency's SMARA authority when a lead agency's actions are in violation of the Act or it defaults on its SMARA responsibilities. SMGB may also exempt from the requirements of the Act specific surface mining operations that are of limited scope and duration, and cause little land disturbance.

Promulgation of regulations that clarify and make specific SMARA's statutes also lie within the SMGB's authority. These regulations include the Performance Standards for the reclamation of lands disturbed by surface mining activities, and types of Financial Assurance instruments that are acceptable to ensure reclamation.

The core services and activities of the SMGB are:

- Establish mining and reclamation standards and policies and provide guidance and direction to lead agencies, mine opera-

tors, the Division of Mines and Geology, the Office of Mine Reclamation, and other agencies and organizations (Federal, state, local);

- Represent the interests of the state in SMARA matters that are appealed to the Board for action;
- Develop regulations to implement the statutes statewide so as to ensure an evenhanded application of the law throughout an environmentally and economically diverse state;
- Minimize residual hazards from surface mining operations to the public health and safety;
- Encourage the production and conservation of the state's mineral resources, while providing standards for the protection and preservation of the state's recreation, watershed, wildlife, range and forage, and aesthetic features.
- Certify lead agency surface mining ordinances as being in accordance with the requirements of SMARA.

Changes to SMARA Since 1976

SMARA became effective on January 1, 1976. Since that time it has been amended by the Legislature 19 times. Some significant changes to the Act occurred in 1987 (AB 747, Sher), in 1990 (AB 3551, 3903, Sher), and 1991 (AB 1506, Sher), when additional performance standards for mine reclamation were required, financial assurances guaranteeing reclamation were made mandatory, surface mines without approved reclamation plans were given deadlines to comply or else close until compliance was achieved, annual inspections of mines by the lead agency were required, and annual mining reports and fees from mine operators were established to support the SMARA program within the DOC.

Also, in 1992 AB 3098 (Sher) changed the Public Contract Code (§ 10295.5) to require state agencies to purchase mineral products from only those surface mines that possessed lead agency approved reclamation plans and financial assurances.

Memorandum of Understanding Between the U.S. Forest Service, the Bureau of Land Management, and the State of California

In 1977, the Attorney General's office advised the SMGB that, barring actual conflicts with federal interests, SMARA could regulate private mining activities on federal lands. In the case California Coastal Commission et al. v. Granite Rock Company (March 1987) the U. S. Supreme Court determined that there was no inherent preemption of state regulation of private activities on federal lands, and no assumption that the application of state law conflicts with federal interests. It was further recognized that the U. S. Forest Service regulations for Plans of Operations do not preempt state regulation because the regulations themselves contemplate and recognize state regulations. Although not articulated in this case, this is also true of the Bureau of Land Management's (BLM) regulations.

On October 19, 1992 the U. S. Forest Service, the Bureau of Land Management, the California Department of Conservation, and the SMGB entered into a Memorandum of Understanding (MOU) for the purposes of:

- Assuring the application of adequate and appropriate reclamation throughout the State of California;
- Simplifying the administration of surface mining and reclamation practice require ments on Federal lands and on a combination of Federal and private lands;
- Achieving coordination of activity governing reclamation; and,
- Eliminating duplication among the aforementioned agencies and counties serving as lead agencies (as defined in SMARA) implementing state and Federal requirements.

This MOU provides the framework required by local government entities, operators, and interested parties to enable full compliance with the letter and spirit of environmental protection laws for surface mining operations in California.

ANNUAL MINE REPORTING

Public Resources Code Section 2207 (AB 3551, 3903 [1990, Sher]; AB 1506 [1991, Sher]) provides requirements for filing annual reports and reporting fees by each mine. These Annual Reports are filed on forms furnished by the SMGB. Annual Reporting Fees and a method for collecting those annual fees from each active surface mining operation also are imposed by the SMGB. By July 1, 1991 surface mine operators were required to file an annual report and pay fees to the DOC for operations conducted during calendar year 1990. The following table reflects the number of reporting mines per year since 1990. Since Annual Reports are filed with the California Department of Conservation by July 1st for the previous calendar year, the number of reporting mines is not available for calendar year 2000 at the time this report was prepared.

Reporting Year	Number of Mines
1990	856
1991	1,079
1992	1,154
1993	1,185
1994	1,274
1995	1,290
1996	1,332
1997	1,326
1998	1,470
1999	1,348

The Department of Conservation's Office of Mine Reclamation's Compliance Unit is responsible for the review and processing of annual reports and mining fees. In July 2000 this unit processed 1,348 Annual Reports filed for calendar year 1999. In addition, mine fees of $1,070,000 were authorized for collection to run the DOC's SMARA program.

OFFICE OF MINE RECLAMATION

In 1991 the DOC created the Office of Mine Reclamation (OMR) to administer the provisions of SMARA for the Department. The core operations of OMR are to:

- *provide expert technical review and comment on reclamation plans and plan amendments submitted by a lead agency prior to the lead agency's approval of the plan;*
- *review and comment on financial assurance estimates for reclamation plans and plan amendments;*
- *assist and advise surface mine operators regarding SMARA compliance issues;*

OMR has a talented technical staff in its Mine Reclamation Unit that reviews reclamation plans and plan amendments submitted by lead agencies. This unit also assists individual mine operators with reclamation questions, and conducts on-site inspections of new surface mine sites and of existing sites when reclamation plan amendments are proposed.

- *assist lead agencies by providing training and advice on administering and enforcing the Act;*

OMR's Reclamation Unit conducts training workshops throughout the state for lead agency personnel regarding the content of SMARA and the SMGB's reclamation regulations. Each year, OMR conducts about six of these workshops.

- *review and process annual reports and fees supporting the SMARA program;*

OMR's Compliance Unit is responsible for the review and processing of annual reports and mining fees. When surface mine operators do not provide reports, fees, reclamation plans and financial assurances as required by SMARA (and Public Resource Code § 2207), the Compliance Unit notifies the operator and the responsible lead agency of the operator's lack of compliance. A request is made of the local jurisdiction to take corrective action. If the operator fails to comply, and the lead agency takes no further action, the Compliance Unit recommends enforcement action to the Director.

- *recommend to the Director enforcement actions against surface mine operators who do not comply with the Act.*

Between July 1999 and July 2000 the DOC issued 13 Administrative Penalties to surface mine operators for failures to come into compliance with SMARA. Individual penalty amounts ranged from $500 to $15,000. Penalties were issued for failures to file an Annual Report, to provide proof of an approved Reclamation Plan, and to provide proof of Financial Assurances. During this same period, the SMGB heard appeals from three of the affected operators.

LEAD AGENCIES

There are 130 SMARA lead agencies (cities and counties) charged with the primary enforcement and administration of the Act. Specific duties of lead agencies are to:

- *review and approve reclamation plans that meet the minimum requirements established by SMARA and the SMGB's reclamation performance standards (regulations) for surface mines;*

View of the U.S. Borax Inc. Borax Mine near the town of Boron in the Mojave Desert, eastern Kern County. This deposit is one of the richest and largest sources of borate minerals in the world. *Photo by Don Dupras, DMG.*

Many lead agencies are diligent in their reviews and approvals of reclamation plans as being in accordance with SMARA and the SMGB's regulations; others, for a variety of reasons, are less able to perform adequate reviews of reclamation plans and rely extensively on the DOC's technical review comments.

- *approve financial assurances, subject to review annually, that are sufficient to pay for the costs of full reclamation of the lands disturbed by surface mining operations according to the requirements of the approved reclamation plan;*

Lead agencies annually must review financial assurances and require adjustments to the financial assurance amounts to cover any changes to the costs of reclamation. This financial assurance review should be accomplished during the mandatory annual inspection process. Following the field inspection, the lead agency should require a recalculation of the required financial assurance amount to adjust for changes in the amount of newly disturbed land and reclaimed land, and economic inflation.

Financial assurances very seldom are adjusted, and are believed by the DOC to have become, in many instances, severely inadequate. Also, according to the DOC, because the annual inspection rate performed by some lead agencies is very low there is no accurate basis for adjusting the financial assurance amounts for mines within those jurisdictions.

- *approve local permits for mining operations;*

Surface mines in existence prior to January 1, 1976 (effective date of SMARA) that have continued operations may be considered "vested" sites by their lead agencies. These sites are exempt from having to obtain local operating permits to mine (other agency permits are still required). Most lead agencies distinguish clearly the difference between vested and non-vested operations; however, a few continue to grant vested status to operations on sites not in existence before 1976, or to sites that clearly were abandoned and had ceased all operations prior to 1976. In at least two cases in the past five years, this type of lead agency action has led to local lawsuits.

- *conduct an annual inspection of each surface mine to confirm that the operation is in compliance with the requirements of SMARA, and to remedy the situation if the operation is not in compliance;*

- *issue Administrative Penalties to operators who do not come into compliance;*

- *close operations that do not attain compliance;*

- *maintain a surface mining ordinance that is in accordance with current SMARA;*

- *incorporate Mineral Resource Management Policies into their General Plans if there are mineral "classified" or mineral "designated" lands within the lead agency's jurisdiction.*

Lead agencies are required to incorporate Mineral Resource Management Policies (MRMP) into their General Plans upon revision of their plans. Thirty-six lead agencies have mineral classified or mineral designated lands within their jurisdictions. Although MRMP's are required to be sent to the SMGB for review prior to their incorporation into local General Plans, most lead agencies seem not to have done so. Also, because MRMP information may be placed in more than one section or element in a General Plan, it can be difficult to find the MRMP if it is not clearly identified. In the heavily urbanized areas of Southern California and the San Francisco Bay Area, it has been found (1996 research) that four of the 14 lead agencies in the Bay Area, and 16 of the 20 lead agencies in Southern California, had not included MRMP information in their General Plans.

STATE MINING & GEOLOGY BOARD

Under SMARA, the SMGB has authority to act on the following items:

- *review and certify lead agency surface mining ordinances;*

SMARA requires each lead agency (City and County) to have a surface mining and reclamation ordinance that is in accordance with the Act. To ensure ordinances are in compliance, the SMGB has authority to review and certify these local ordinances that meet SMARA requirements. As of July 1, 2000 there are 130 SMARA lead agencies in the state.

SMARA requires that lead agencies periodically revise these ordinances to keep them in accordance with legislative changes to the Act. The SMGB is required to re-certify these ordinances before they become effective.

Between July 1999 and July 2000, the SMGB reviewed and re-certified the updated SMARA ordinances for 41 lead agencies.

As of July 2000 the SMGB has assumed limited SMARA authority to review and approve reclamation plans and plan amendments for 20 lead agencies that have not revised their mining ordinances. The SMGB also is acting with full lead agency authority (enforcement, inspections, financial assurance and reclamation plan approvals, appeals) for seven additional jurisdictions that have no surface mining ordinances.

- *review certain orders of the Director before they become effective;*

When the Director issues an Order to a surface mine operator to bring its operations into compliance with the Act, SMARA provides that the Order does not become effective until it has been heard by the SMGB in public session. This constitutes an automatic appeal to the Board.

- *assume local lead agency authority for administering and enforcing SMARA under specified circumstances;*

There are four circumstances when the SMGB is empowered to assume local lead agency authority:

[1] when the lead agency's mining ordinance has been determined to be deficient by the SMGB, the SMGB assumes authority to review and approve new reclamation plans and plan amendments until a revised ordinance is certified by the SMGB; there were 20 lead agencies in this category as of June 30, 2000.

[2] when a local jurisdiction has no mining ordinance, yet has a mining, or proposed mining, operation within its jurisdiction; there were seven lead agencies in this category as of July 1, 2000.

[3] when the SMGB accepts an appeal petition from an aggrieved person alleging a lead agency's inaction or its denial of a reclamation plan or financial assurance, the SMGB may uphold or override that denial; the Board had three appeals regarding reclamation plan denials before it as of July 1, 2000.

[4] when the SMGB determines that a lead agency has failed in one or more of its responsibilities under SMARA.

In March 2000 the SMGB assumed from El Dorado County its SMARA authority to annually inspect surface mines. The Board determined that annual mine inspections performed by the County were not adequate to determine the true operating and compliance status of the surface mines within the County's jurisdiction. Under SMARA Section 2774.4, the Board will have this inspection authority for a minimum of three years.

- *adjudicate appeals from individuals and mine operators for specific lead agency actions; (see [3] and [4] above).*

- *adjudicate appeals of Administrative Penalties issued by the Director;*

From July 1999 to July 2000 the DOC issued 13 Administrative Penalties to surface mine operators. The penalty amounts varied from $500

to $15,000 and were issued for failures to file an Annual Report, to provide proof of an approved Reclamation Plan, and to provide proof of Financial Assurances. Three operators appealed their penalties to the SMGB. The SMGB has the authority to rescind, modify, or uphold, by its own order, the penalty on appeal. In these three cases, the SMGB determined to uphold the penalties.

- *exempt from the requirements of SMARA specific surface mining operations;*

The SMGB may exempt from the requirements of SMARA surface mining operations that are of short duration and cause limited surface disturbance. Between July 1999 and July 2000 the SMGB heard one request from an individual to remove a small stockpile of gypsum from an abandoned mine site. The gypsum would be used on nearby agricultural lands. The Board granted the exemption.

- *designate specific areas as having economic mineral significance to a general region of the state;*

[For a discussion of Mineral Land Classification and Designation, refer to the **Mineral Resources Conservation** section below].

- *make regulations implementing the statutes.*

The bulk of the SMGB's regulations pertaining to reclamation performance standards were adopted on January 15, 1992 following earlier changes to SMARA that mandated the SMGB to provide for these regulations. These regulations are contained in the California Code of Regulations Section 3500 et seq. and Section 3700 et seq. Since then, most regulatory action has been to clarify portions of the Act and Public Resources Code Section 2207. The Board revised five regulations during Fiscal Year 1999-2000.

Summary of SMARA Guidelines Adopted by the SMGB

The SMGB adopted the following guidelines pursuant to its statutory authority under SMARA.

- *Guidelines for Classification and Designation of Mineral Lands:* These guidelines, which are sanctioned in SMARA, provide information to the State Geologist and the Division of Mines and Geology about the economic criteria that are to be employed for determining which of the state's mineral deposits can be "classified" by the State Geologist and "designated" by the SMGB as having economic significance. These guidelines were revised and re-adopted by the SMGB in November 1999.
- *Guidelines for Engineering Geologic Reports for Timber Harvest Plans (Division of Mines and Geology Note 45):* The guidelines provide information for preparing and reviewing the geologic portion of Timber Harvest Plans. These revised guidelines were adopted by the SMGB in November 1999.

MINERAL RESOURCES CONSERVATION

California is one of the nation's leading mining states in terms of both value and diversity of minerals produced. There were 1,348 reporting mines and quarries in the state for calendar year 1999. Combined production from these mines totaled approximately $3.19 billion worth of non-fuel minerals in that same year. This represents an increase of about 7½% over 1998's production value of $2.97 billion.

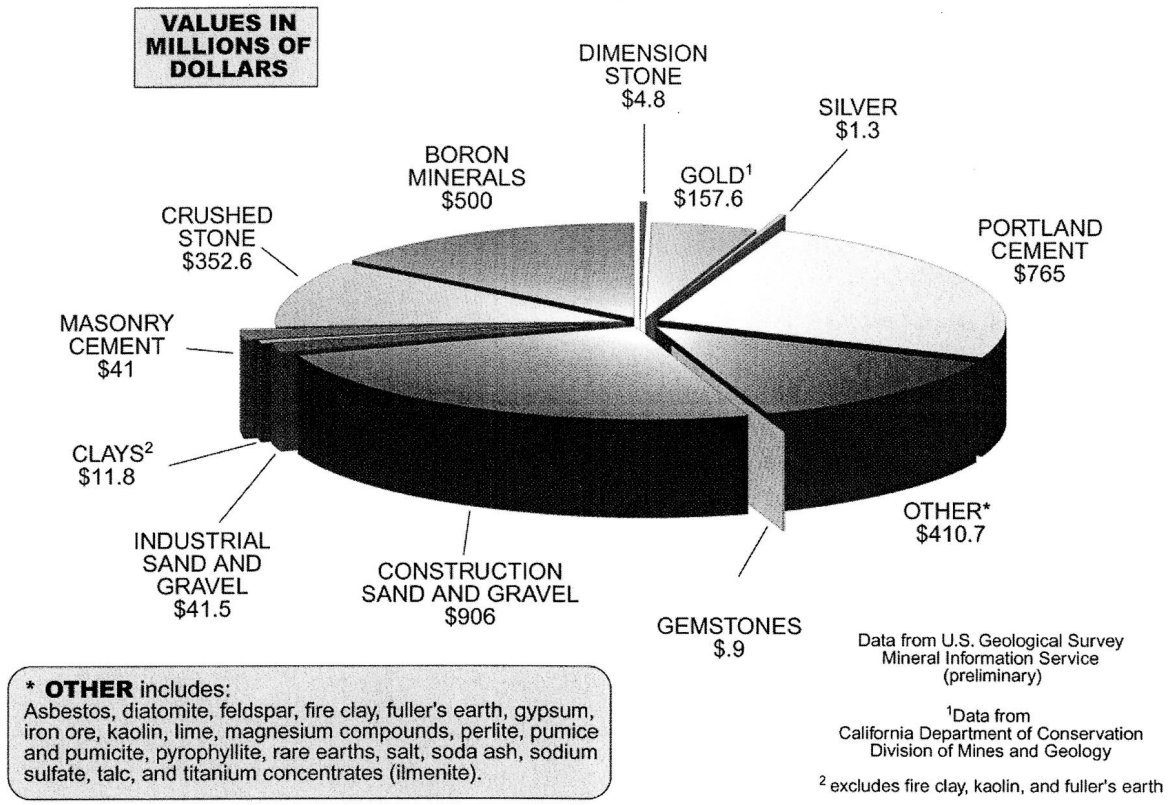
About 80 non-fuel minerals are known to have been produced commercially at one time or another in the state. Approximately 35 mineral commodities currently are being mined. Principal minerals include aggregate, carbonate rock, borate minerals, rare-earth minerals, diatomite, gypsum, asbestos, magnesium and sodium compounds, calcium chloride, specialty and common clays, specialty sand, and gold.

The largest group of active mines produced construction and industrial grade aggregate valued at $947 million (sand and gravel), followed by the industrial minerals of portland

CALIFORNIA

Principal Mineral - Producing Localities

1990 - 2000



cement ($765 million), boron minerals ($500 million), and crushed stone ($352 million). California's metallic metal production was dominated by gold, which accounted for $157 million of product (564 thousand Troy ounces). Commercial mines are found in 57 of the state's 58 counties.

[For additional information on mineral production for 1999, refer to California Geology Magazine, Sept./Oct. 2000].

As California's population continues to grow rapidly, its communities face increasingly difficult and complex land use decisions. The production of mineral resources--so necessary to support an expanding population--must compete with other land uses such as agriculture, timber forests, urban development, and recreational, sensitive ecological or scenic areas. The rapid growth of many communities and the incompatibility of mining with most other land uses sometimes results in heated conflicts within those communities. Often, the mineral resource is needed by the very use that threatens it. For example, construction grade aggregate deposits, which are the sources for the construction and repair of roads, houses, and commercial buildings, often are built over before the resource can be extracted.

In an effort to address this issue, SMARA provides for a method by which mineral lands may be "Classified" by the State Geologist, and "Designated" by the State Mining and Geology Board. These Classification and Designation processes are methods by which an inventory of the state's most valuable mineral deposits can be compiled and made available to local communities for inclusion in their land use decision making.

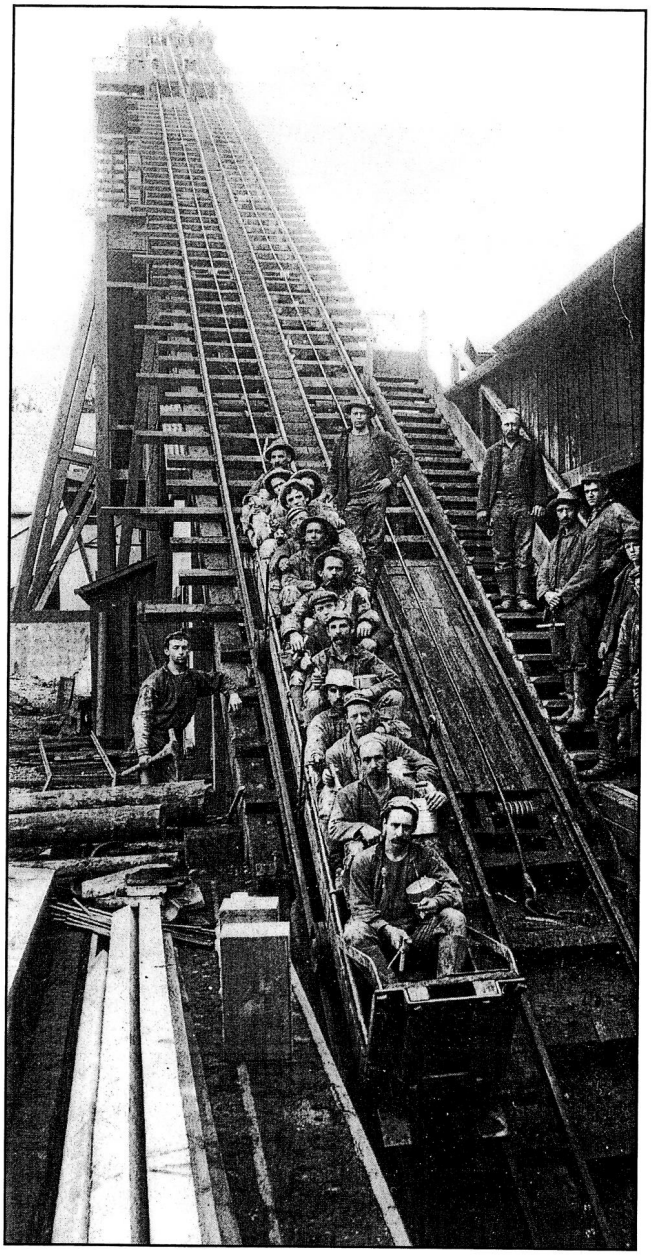
Classification is the method by which the State Geologist, in accordance with a time schedule and based upon guidelines adopted by the SMGB, geologically evaluates the state's lands and categorizes those lands as: (1) having little or no mineral deposits; (2) areas containing

significant mineral deposits; and, (3) areas containing mineral deposits, the significance of which requires further evaluation. These determinations by the State Geologist are made based solely on geologic factors, and without regard to existing land use or land ownership. Mineral Classification information is transmitted to the SMGB by the State Geologist, and then is provided to locally affected jurisdictions (cities and counties) by the SMGB.

In some regions, large portions of the areas classified as having significant mineral deposits are already committed to other various urban uses, which prohibit access to the underlying resources. As an additional aid to local planning agencies, classification reports prepared for metropolitan areas also highlight non-urbanized portions of the classified mineral lands as Aggregate Resource Areas (ARA). These non-urbanized ARA's contain mineral deposits that remain potentially available for future use, and facilitates estimating the volume of aggregate material that is practically available in the region. ARA's may be considered for Designation by the SMGB.

Designation is the process by which the SMGB, based on analyses by the State Geologist and the Division of Mines and Geology, information gathered from local communities, the mining industry, and other government agencies such as the Governor's Office of Planning and Research, determines that a particular mineral classified deposit is of regional (multi-community) or statewide economic significance. In contrast to Classification, which inventories mineral deposits without regard to existing land use, the purpose of Designation is to identify those areas that are of prime importance in meeting the future needs of the study region and that remain available from a land use perspective.

The objectives of these processes are to provide local agency decision makers with information on the location, need, and importance of mineral resources within their jurisdiction, and to require that this information be considered in local land use planning decisions.



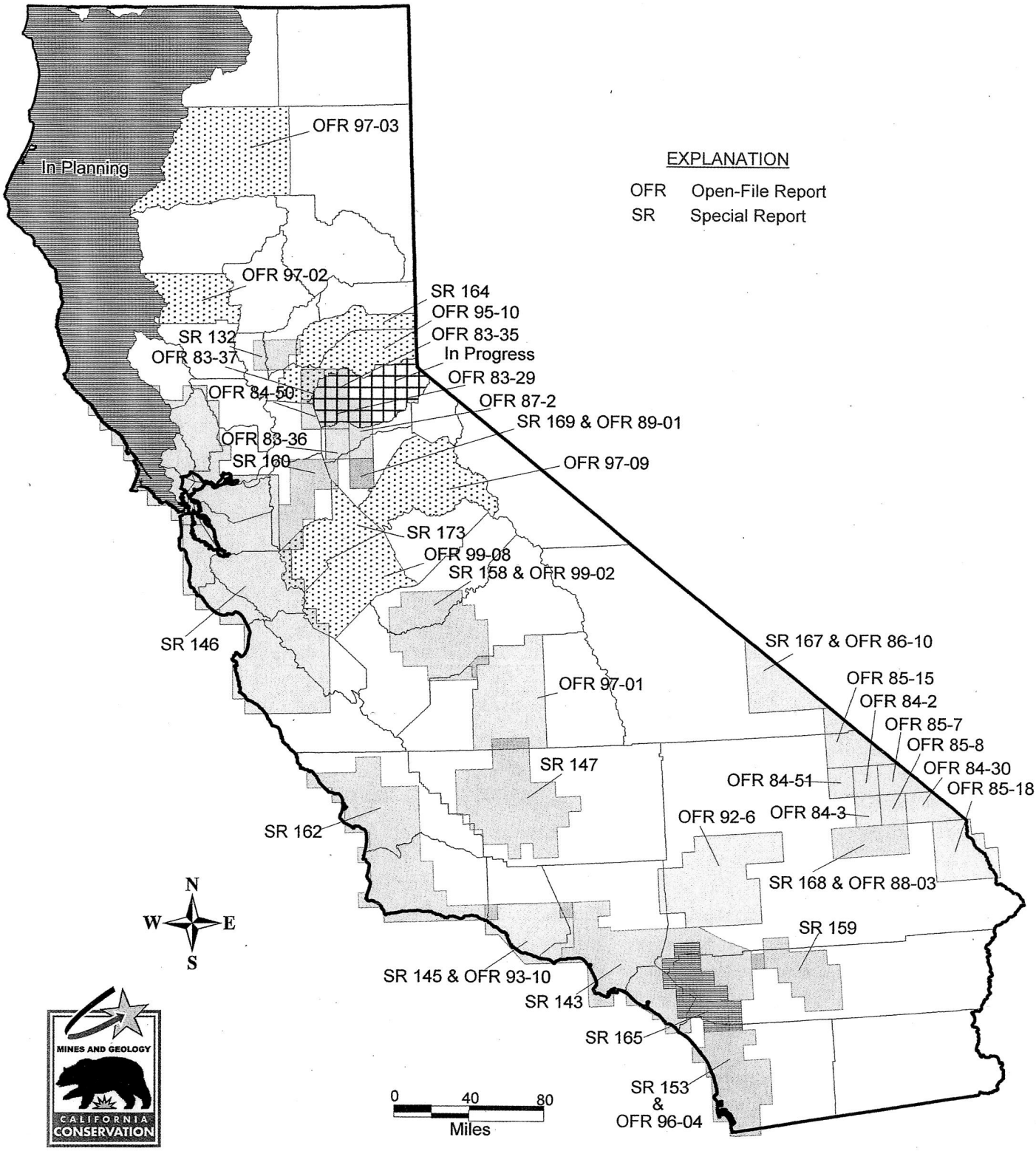
"Night Shift, Empire Mine", Nevada County. *Courtesy of California Department of Parks and Recreation.*

These objectives are met through the adoption of local Mineral Resource Management Policies that provide for the conservation and prudent development of these mineral deposits.

One of the first mineral commodities selected by the SMGB for classification by the State Geologist was construction grade aggregates, such as sand, gravel, and crushed rock. The importance of construction aggregate is often overlooked, even though it is an essential commodity in today's society. Aggregate is a key

Index Map of SMARA Mineral Land Classification Reports

August 2000

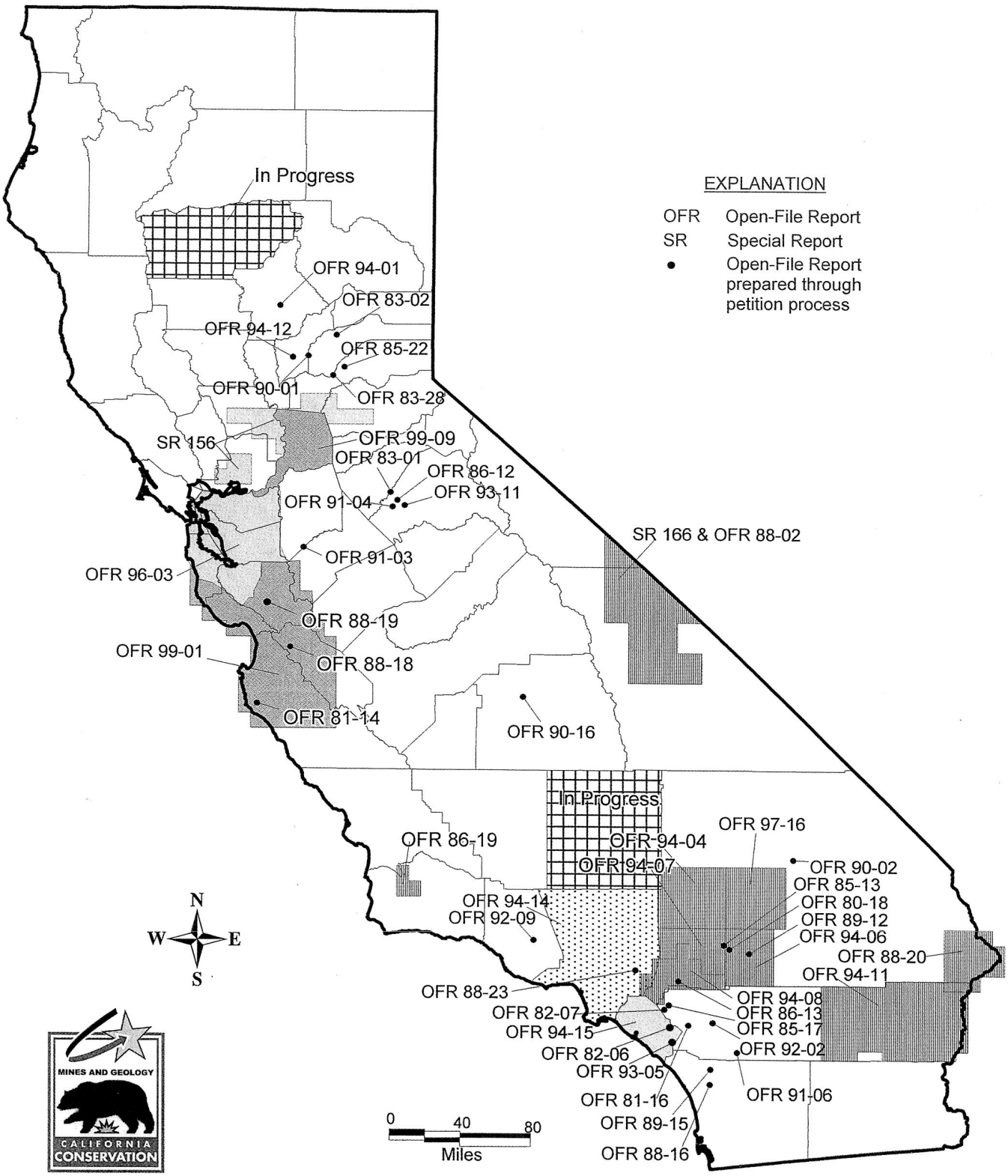


* The SMARA report locales are shown on two index maps and with varied rendering for map clarity.

Index Map of SMARA Mineral Land Classification Reports

Map 2 of 2*

August 2000



* The SMARA report locales are shown on two index maps and with varied rendering for map clarity.

component in products such as portland cement concrete, asphaltic concrete (macadam), railroad ballast, stucco, road base, and fill materials.

California's construction industry is greatly dependent on readily available aggregate deposits that are within a reasonable distance to market regions. Aggregate is a low unit-value, high bulk-weight commodity; therefore, aggregate for construction must be obtained from nearby sources in order to minimize costs to the consumer. If nearby aggregate sources do not exist, then transportation costs quickly can exceed the value of the aggregate. Transportation cost is one of the most important factors considered when defining the market area for an aggregate mine operation.

Prior to 1991, the SMGB designated 15 areas within the state, encompassing 259,585 acres, as having regionally significant economic mineral resources. Designation stopped when the costs of complying with the requirements of the California Environmental Quality Act became prohibitive, and agency budgets were being reduced because of the "California economic recession" of the early 1990's. Since that time, no additional areas have received mineral Designation status from the SMGB.

Designation is an effort to conserve mineral resources in regions of expected rapid urbanization or other land uses that might prevent surface mining activities, and therefore result in a loss of the mineral resource to the community. To avoid dictating to local communities where future aggregate mines should be located, mineral designated areas generally contain resources (unpermitted deposits) that are far in excess of the region's 50-year demand. This attempts to provide maximum flexibility to local governments in making land use decisions, while still conserving an adequate amount of construction aggregate for the future.

As part of SMARA's Mineral Land Classification requirements, the State Geologist updates mineral classification reports which are ten years old to account for depletion of resources mined and to adjust for population growth. Between July 1999 and July 2000 the SMGB accepted the following Classification Update Reports: Open-File Report 99-01, *Monterey Bay Production Consumption Region*; Open-File Report 99-02, *Fresno Production Consumption Region;* Open-File Report 99-08, *Merced County*; and Open-File Report 99-09, *Sacramento County*.

In addition, the SMGB accepted a mineral classification petition request from KRC Holdings, which resulted in the publication of Open-File Report 2000-04 for *Aggregate Resources on a Portion of the M & T Chico Ranch Reserve in Butte County*.

ABANDONED MINE LANDS PROGRAM

Commencing in fiscal year 1997-1998, the Abandoned Mine Lands Unit was created within the DOC's Office of Mine Reclamation. This unit is charged with locating, inventorying, and characterizing the state's pre-SMARA (i.e., before January 1, 1976 when SMARA become effective) historic abandoned mines.

Many of the pre-SMARA mines that ceased operations before site reclamation was a state requirement and before various environmental regulations were enacted have been found to be hazardous and a threat to the natural environment. In rapidly urbanizing regions of the state as well as in heavily used recreational areas, these old mines may pose a very significant threat to the health and safety of the human population. The low level of knowledge about the location and effects of abandoned mines on the well-being of local communities is becoming more evident in the face of new disclosure requirements for land-use planning and development.

For years, both local jurisdictions and state agencies have had authority over abandoned mines if those mines adversely affected water quality (Regional Water Quality Control Board), or if they contained hazardous wastes that could escape into the surrounding environment (De-

partment of Toxic Substances Control). However, there has not been a statewide clearinghouse for information regarding the character and type of abandoned mines nor has there been a statewide coordinated effort to address abandoned mine health and safety issues. This program hopes to fill this void.

In other states around the country, identification of "historic" and abandoned mines has been the first step in obtaining state and federal monies to help clean up some of the more serious problem sites and to close dangerous adits and shafts. Recognizing the potential for economic, environmental and social benefits to downstream users of impaired streams, state and federal agencies, municipalities, and citizen groups have come together to address abandoned mine issues throughout the U.S.

The California Department of Conservation calculates that there are 39,000 historic abandoned mines in California for the Abandoned Mine Lands Unit (AMLU) to inventory. In addition, the AMLU calculates that there are about 130,000 features (shaft openings, tailings heaps, smelter sites, etc.) associated with these mines that could need remedial attention. Of these features, it is estimated that about 50,000 of them present hazardous openings that could present a threat to human life.

In order to tackle this enormous task in a logical fashion, the unit employs a watershed approach that begins in the areas with the highest potential threat to public health and safety and to the environment. AMLU is also working with other federal and state agencies and local organizations to compile and consolidate knowledge about these sites.

AMLU is using a combination of sophisticated survey technologies (geographical information systems, global positioning systems, etc.), literature research, and field work. Existing databases previously developed by the Division of Mines and Geology (DMG) and the former U.S. Bureau of Mines form the nucleus of this work. The DMG Library also provides a wealth of historical information. Local knowledge is often a valuable resource for historic abandoned mine information. AMLU has established a toll-free telephone number (1-877-OLD MINE) to easily allow individuals throughout California to contribute to the inventory.

AMLU intends to provide to local governments an electronic copy of the data collected within the surveyed watershed study areas. These data will be in the form of an Access database that is linked to an ArcView GIS system. Local agencies will be able to query the mine database directly or display the information spatially. It is intended that this information will be in a form so as to aid local agencies in land-use planning and in watershed planning decisions, and in applying to the state and Federal government for grant funds to reclaim these abandoned sites.

ANNUAL REPORT
of the
STATE MINING AND GEOLOGY BOARD
1999-2000

BOARD ACTIONS PURSUANT TO THE ALQUIST-PRIOLO EARTHQUAKE FAULT ZONING ACT

The Alquist-Priolo Earthquake Fault Zoning Act (Public Resources Code Sections 2621 et seq.) provides for the mapping by the Division of Mines and Geology of "Earthquake Fault Zones" along the surface traces of active faults in California. Mapping is done according to policies established by the SMGB. These Earthquake Fault Zones Maps are provided to local governments for their land-use planning and decision making.

The Act prohibits the construction of most structures for human occupancy, as defined, across the trace of an active fault. Lead agencies (cities and counties) affected by these Zones must regulate certain construction developments within the Zones. Lead agencies must not issue development permits for sites located within Earthquake Fault Zones until geologic investigations demonstrate that the sites are not threatened by surface displacement from future faulting.

This law initially was designated as the Alquist-Priolo Geologic Hazards Zones Act. In May 1975 it was re-named the Alquist-Priolo Special Studies Zones Act. In January 1994 the Act was given its current name. Information regarding the Act and an index of the mapped Earthquake Fault Zones is available in the Division of Mines and Geology's Special Publication 42.

As of July 2000, 544 Official Maps of Earthquake Fault Zones have been issued by the Division of Mines and Geology. Of these, 148 have been revised since their initial issue, and four maps have been withdrawn. Thirty-six counties and 100 cities are affected by the existing Earthquake Fault Zones. No additional maps or map revisions were finalized in the last fiscal year.

Under this Act, upon the issuance of Preliminary Earthquake Fault Zone Maps by the State Geologist, the SMGB conducts public hearings within the affected lead agencies to receive technical comments about the maps. These comments are reviewed by the SMGB's Geohazards Committee, and then forwarded to the State Geologist for consideration for inclusion in the Official Earthquake Fault Zone Maps. The approval of a project by a city or county must be in accordance with the policies and criteria established by the SMGB, and geologic reports prepared by affected lead agencies must be in sufficient detail as to meet the SMGB's policies.

Cities and counties affected by existing Earthquake Fault Zones

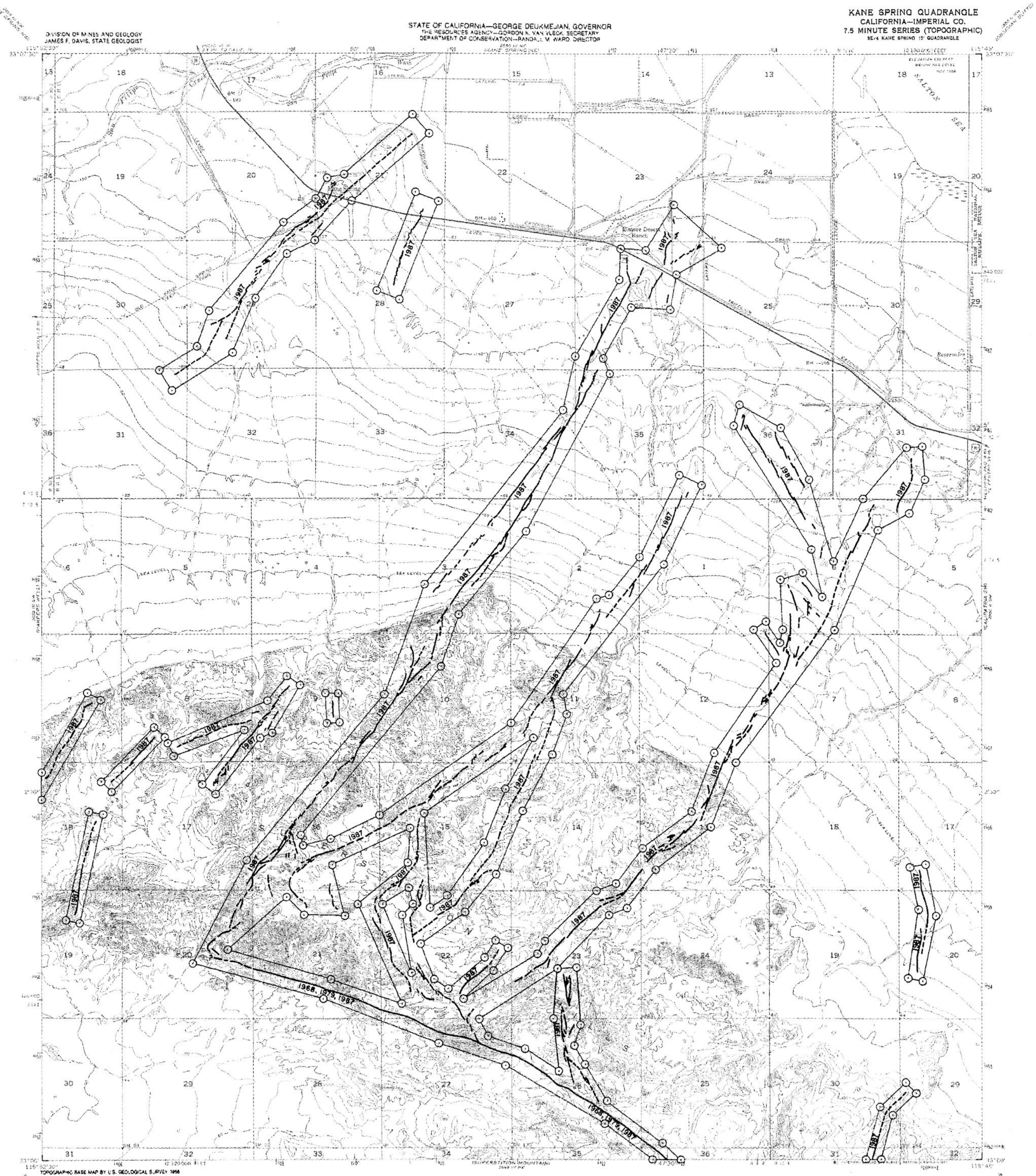
CITIES		
American Canyon	Benicia	Cathedral City
Arcadia	Berkeley	Coachella
Arcata	Bishop Brea	Colton
Bakersfield	Calimesa	Compton
Banning	Camarillo	Concord
Barstow	Carson	Corona

continued on next page...

Cities and counties affected by existing Earthquake Fault Zones *continued...*

Daly City
Danville
Desert Hot Spgs.
Dublin
El Cerrito
Fairfield
Fontana
Fortuna
Fremont
Gardena
Glendale
Hayward
Hemet
Highland
Hollister
Huntington Beach
Indio
Inglewood
La Habra
La Habra Heights
Lake Elsinore
Livermore
Loma Linda
Long Beach
Los Angeles
Malibu
Mammoth Lakes
Milpitas
Monrovia
Moorpark
Moreno Valley
Morgan Hill
Murrieta
Oakland
Pacifica
Palmdale
Palm Springs
Palo Alto
Pasadena
Pleasanton
Portola Valley
Rancho Cucamonga
Redlands
Rialto
Richmond
Ridgecrest
Rosemead
San Bernardino
San Bruno
San Diego
San Fernando
San Jacinto
San Jose
San Juan Bautista
San Leandro
San Luis Obispo
San Marino
San Pablo
San Ramon
Santa Clarita
Santa Rosa
Seal Beach
Signal Hill
Simi Valley
So. Pasadena
Temecula
Trinidad
Twentynine Palms
Union City
Upland
Ventura
Walnut Creek
Whittier
Willits
Windsor
Woodside
Yorba Linda
Yucaipa
Yucca Valley

COUNTIES
Alameda
Alpine
Butte
Contra Costa
Fresno
Humboldt
Imperial
Inyo
Kern
Lake
Lassen
Los Angeles
Marin
Mendocino
Merced
Modoc
Mono
Monterey
Napa
Orange
Riverside
San Benito
San Bernardino
San Diego
San Luis Obispo
San Mateo
Santa Barbara
Santa Clara
Santa Cruz
Shasta
Siskiyou
Solano
Sonoma
Stanislaus
Ventura
Yolo



SCALE 1:24,000

1 MILE | 1000 FEET | 1 KILOMETER

CONTOUR INTERVAL 10 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

MAP EXPLANATION

Active Faults

Faults considered to have been active during Holocene time and to have a relatively high potential for surface rupture; solid line where accurately located, long dash where approximately located, short dash where inferred, dotted where concealed; query (?) indicates additional uncertainty. Evidence of historic offset indicated by year of earthquake-associated event or C for displacement caused by creep or possible creep.

Special Studies Zone Boundaries

These are delineated as straight-line segments that connect encircled turning points so as to define special studies zone segments.

Seaward projection of zone boundary.

STATE OF CALIFORNIA
SPECIAL STUDIES ZONES

Delineated in compliance with
Chapter 7.5, Division 2 of the California Public Resources Code
(Alquist-Priolo Special Studies Zones Act)

Kane Spring Quadrangle

REVISED OFFICIAL MAP

Effective: January 1, 1990

James F. Davis State Geologist

REFERENCES USED TO COMPILE FAULT DATA

Kane Spring Quadrangle

Hudnut, K., Seeber, L., Rockwell, T., Goodmacher, J., Klinger, R., Lindvall, S., and McElwain, R., 1989 (in press), Cross-fault surface ruptures in the November 23-24, 1987 Superstition Hills earthquake sequence, California: Bulletin of the Seismological Society of America, April 1989.

Kahle, J.E., Wills, C.J., Hart, E.W., Treiman, J.A., Greenwood, R.B., and Kaumeyer, R.S., 1988, Surface rupture, Superstition Hills earthquakes of November 23 and 24, 1987: California Geology, v. 41, no. 4, p. 75-84.

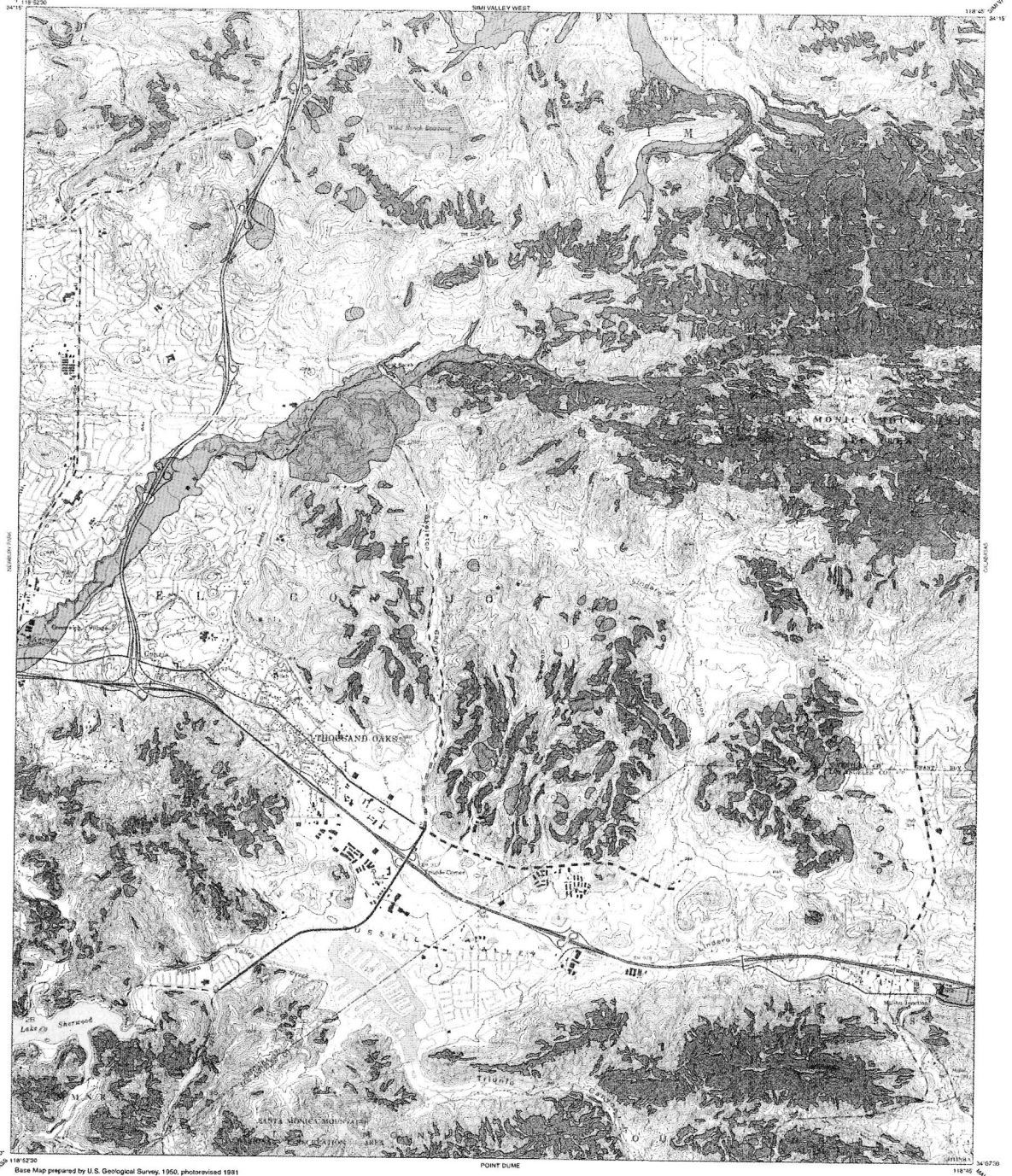
Sharp, R.V., Budding, K.E., Boatwright, J., Ader, M.J., Bonilla, M.G., Clark, M.M., Fumal, T.E., Harms, K.K., Lienkaemper, J.J., Morton, D.M., O'Neill, B.J., Ostergren, C.L., Ponti, D.J., Rymer, M.J., Saxton, J.L., and Sims, J.D., 1989 (in press), Surface faulting along the Superstition Hills fault zone and nearby faults associated with the earthquakes of 24 November 1987: Bulletin of the Seismological Society of America, April 1989.

Treiman, J.A., 1989, Superstition Hills, Superstition Mountain, and related faults, Imperial County, California: Division of Mines and Geology Fault Evaluation Report FER-207 (unpublished).

For additional information on faults in this map area, the rationale used for zoning, and additional references consulted, refer to unpublished Fault Evaluation Reports on file at regional offices of DMG.

IMPORTANT - PLEASE NOTE

1) *This map may not show all faults that have the potential for surface fault rupture, either within the special studies zones or outside their boundaries.*
2) Faults shown are the basis for establishing the boundaries of the special studies zones.
3) The identification and location of these faults are based on the best available data. However, the quality of data used is varied. Traces have been drawn as accurately as possible at this map scale.
4) Fault information on this map is not sufficent to serve as a substitute for the geologic site investigations (special studies) required under Chapter 7.5 of Division 2 of the California Public Resources Code.



Base Map prepared by U.S. Geological Survey, 1950, photorevised 1981

PURPOSE OF MAP

This map will assist cities and counties in fulfilling their responsibilities for protecting the public safety from the effects of earthquake-triggered ground failure as required by the Seismic Hazards Mapping Act (Public Resources Code Sections 2690-2699.6).

For information regarding the scope and recommended methods to be used in conducting the required site investigations, see DMG Special Publication 117, Guidelines for Evaluating and Mitigating Seismic Hazards in California.

For a general description of the Seismic Hazards Mapping Program, the Seismic Hazards Mapping Act and regulations, and related information, please refer to the draft User's Guide (see http://www.consrv.ca.gov/dmg/shezp/userguid) (User's Guide

Production of this map was funded by the Federal Emergency Management Agency's Hazard Mitigation Program and the Department of Conservation in cooperation with the Governor's Office of Emergency Services.

IMPORTANT - PLEASE NOTE

1) This map may not show all areas that have the potential for liquefaction, landsliding, strong earthquake ground shaking or other earthquake and geologic hazards. Also, single earthquake capable of causing liquefaction or triggering landslide failure will not uniformly affect the entire area zoned.

2) Liquefaction zones may also contain areas susceptible to the effects of earthquake-induced landslides. This situation typically exists at or near the toe of existing landslides, downslope from rockfall or debris flow source areas, or adjacent to steep stream banks.

3) This map does not show Alquist-Priolo earthquake fault zones, if any, that may exist in this area. Please refer to the latest official map of earthquake fault zones for disclosures and other actions that are required by the Alquist-Priolo Earthquake Fault Zoning Act. For more information on this subject and an index to available maps, see DMG Special Publication 42.

4) Landslide zones on this map were determined, in part, by adapting methods originally developed by the U.S. Geological Survey (USGS). Landslide hazard maps prepared by the USGS typically use experimental approaches to assess earthquake-induced and other types of landslide hazards. Although aspects of these new methodologies may be incorporated in future CDMG seismic hazard zone maps, USGS maps should not be used as substitutes Official SEISMIC HAZARD ZONES maps.

5) U.S. Geological Survey base map standards provide that 90 percent of cultural feature be located within 40 feet (horizontal accuracy) at the scale of this map. The identification and location of liquefaction and earthquake-induced landslide zones are based on available data. However, the quality of data used is varied. The zone boundaries depicted have been drawn as accurately as possible at this scale.

6) Information on this map is not sufficient to serve as a substitute for the geologic and geotechnical site investigations required under Chapters 7.5 and 7.8 of Division 2 of the Public Resources Code.

7) DISCLAIMER: The State of California and the Department of Conservation make no representations or warranties regarding the accuracy of the data from which these maps were derived. Neither the State nor the Department shall be liable under any circumstances for any direct, indirect, special, incidental or consequential damages with respect to any claim by any user or any third party on account of or arising from the use of this map.

SCALE 1:24,000

1 0 1 MILE
1000 0 1000 2000 3000 4000 5000 6000 7000 FEET
1 0 1 KILOMETER

STATE OF CALIFORNIA
SEISMIC HAZARD ZONES

Delineated in compliance
Chapter 7.8, Division 2 of the California Public Resources
(Seismic Hazards Mapping

THOUSAND OAKS QUADRANGLE

OFFICIAL MAP

Released: November 17, 2000

STATE GEOLOGIST

MAP EXPLANATION

Zones of Required Investigation:

Liquefaction

Areas where historic occurrence of liquefaction, or local geological, geotechnical and groundwater conditions indicate a potential for permanent ground displacements such that mitigation as defined in Public Resources Code Section 2693(c) would be required.

Earthquake-Induced Landslides

Areas where previous occurrence of landslide movement, or local topographic, geological, geotechnical and subsurface water conditions indicate a potential for permanent ground displacements such that mitigation as defined in Public Resources Code Section 2693(c) would be required.

DATA AND METHODOLOGY USED TO DEVELOP THIS MAP ARE PRESENTED IN THE FOLLOWING:

Seismic Hazard Evaluation of the Thousand Oaks 7.5 minute quadrangle, Ventura County, California: California Division of Mines and Geology, Open-File Report 2000-008.

For additional information on seismic hazards in this map area, the rationale used for zoning, and additional references consulted, refer to DMG's World Wide Web site (http://www.consrv.ca.gov/dmg/).

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ANNUAL REPORT
of the
STATE MINING AND GEOLOGY BOARD
1999-2000

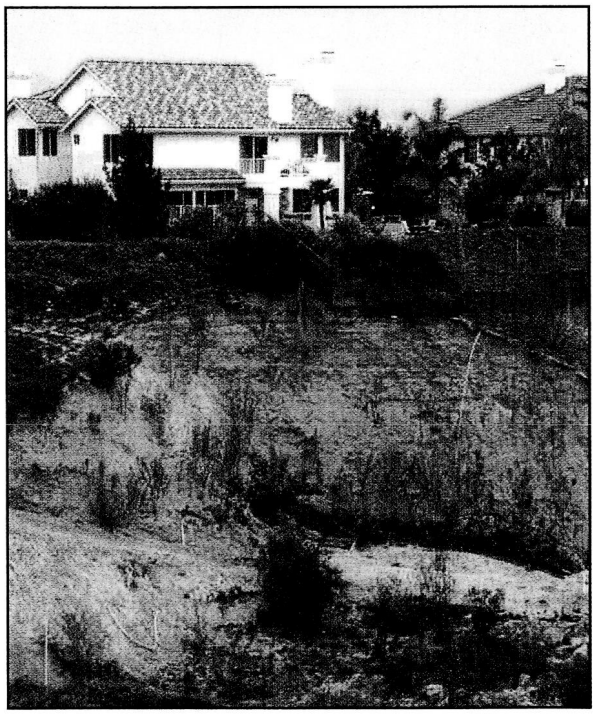
BOARD ACTIONS PURSUANT TO THE SEISMIC HAZARDS MAPPING ACT

The Seismic Hazards Mapping Act became effective on April 1, 1991 and created a statewide seismic hazards mapping and technical advisory program to assist cities and counties in fulfilling their responsibilities for protecting the public's health and safety from the effects of strong ground shaking, liquefaction or other ground failure, landslides, and other seismic hazards caused by earthquakes. Specifically, the Act requires the delineation of seismic hazard zones by the Division of Mines and Geology, and the disclosure by sellers to prospective buyers of lands located in seismic hazard zones.

Under this Act the SMGB developed, in cooperation with the State Geologist, guidelines and priorities for mapping seismic hazard zones; policies and criteria for local and state agencies to implement the Act; and, guidelines for evaluating seismic hazards and recommending mitigation measures.

As required by the Act, the SMGB appointed an eight-member Seismic Hazards Mapping Act Advisory Committee (SHMAAC) for the purpose of developing the guidelines for evaluating seismic hazards. On March 13, 1997 the SMGB adopted the *Guidelines for Evaluating and Mitigating Seismic Hazards in California*. These *Guidelines* have been published by the Division of Mines and Geology as Special Publication 117. The *Guidelines* reflect the collective intellectual talents from many individuals engaged in a broad spectrum of professions including the geological sciences, engineering, business, insurance, local government planning, academia, state and federal government agencies.

As of July 2000, 41 Official Seismic Hazard Zone Maps had been released. An additional ten maps are in release in preliminary condition for public review. These official and preliminary maps cover parts of Los Angeles, Orange, San Francisco, Santa Clara and Ventura counties. Each map covers an area of approximately 60 square miles. Prior to the release of the Official maps, a Preliminary set of maps is released for public review. The SMGB's Geohazards Committee conducts public hearings within the affected local jurisdictions to receive technical comments on the maps. These comments are reviewed by the Committee, and then forwarded to the State Geologist for consideration in preparing the final set of Official Maps.



This subdivision was permitted prior to seismic hazard zoning. Official zoning identifies hazardous subsurface conditions like this prior to construction.
Photo by Jack McMillan, DMG.

Cities and counties affected by Seismic Hazard Zone Maps

COUNTIES
Los Angeles
Orange
San Francisco
Santa Clara
Ventura

CITIES
Agoura Hills
Anaheim
Arcadia
Artesia
Azusa
Baldwin Park
Bell
Bell Gardens
Bellflower
Beverly Hills
Brea
Buena Park
Burbank
Calabasas
Carson
Cerritos
Claremont
Commerce
Compton
Costa Mesa
Covina
Cudahy
Culver city
Cypress
Diamond Bar
Downey
Duarte
El Monte
El Segundo
Fountain Valley
Fullerton
Garden Grove
Gardena
Glendale
Glendora
Hawaiian
Gardens
Hermosa Beach
Hidden Hills
Huntington
Beach
Huntington Park
Industry
Inglewood
Irvine
Irwindale
La Canada-
Flintridge
La Habra
La Habra
Heights
La Mirada
La Palma
La Puente
La Verne
Laguna Beach
Laguna Hills
Lakewood
Lomita
Long Beach
Los Alamitos
Los Angeles
Lynwood
Malibu
Manhattan
Beach
Maywood
Mission Viejo
Monrovia
Montebello
Monterey Park
Moorpark
Newport Beach
Norwalk
Orange
Palos Verdes Estates
Paramount
Pasadena
Pico Rivera
Placentia
Pomona
Rancho Palos Verdes
Redondo Beach
Rolling Hills
Rolling Hills Estates
Rosemead
San Dimas
San Fernando
San Francisco
San Gabriel
San Marino
Santa Ana
Santa Clarita
Santa Monica
Seal Beach
Sierra Madra
Signal Hill
Simi Valley
South El Monte
South Gate
South Pasadena
Stanton
Temple City
Thousand Oaks
Torrance
Tustin
Vernon
Villa Park
Walnut
West Covina
West Hollywood
Westlake Village
Westminster
Whittier
Yorba Linda

ANNUAL REPORT
of the
STATE MINING AND GEOLOGY BOARD
1999-2000

OBSERVATIONS AND RECOMMENDATIONS

The following observations and recommendations were approved by the SMGB and included in the Annual Report for 1998-1999. Since these issues are still current, the SMGB believes these recommendations should be included in this year's Annual Report.

Surface Mining and Reclamation Act

Adequacy of Reclamation Plans: Current SMARA provides that a lead agency submit a reclamation plan prepared by an applicant mine operator to the Department of Conservation (DOC) for technical review and comment. DOC's comments as to the adequacy of the proposed reclamation plan in meeting the minimum requirements of SMARA are returned to the lead agency, which may or may not incorporate the DOC's comments into the proposed plan [ref. PRC § 2774(c)]. According to the DOC, this process has resulted in lead agency approval of reclamation plans that vary widely in their comprehensive approach to mine reclamation, and that in many cases are wholly inadequate in that they do not meet the minimum state reclamation standards required by SMARA and the SMGB's regulations. Current SMARA provides no explicit authority for the DOC to ensure or enforce the incorporation of minimum state performance standards into a reclamation plan, short of filing a lawsuit in the courts or appealing already locally approved reclamation plans to the SMGB. These enforcement paths are always "after-the-fact" actions that are very costly to all parties, time consuming, and lead to acrimonious relationships between state and local agencies.

Although the SMGB recognizes that California has a diverse geography and geology, and that mine operations and techniques of necessity vary from one site to the next, none of these factors should enter into the equation of having a site specific reclamation plan that adequately meets minimum state standards.

The SMGB recommends that the DOC's technical review comments that are limited to the requirements of PRC Sections 2772, 2773 and 2773.1 and the SMGB's reclamation requirements must be incorporated into the plan prior to local lead agency approval of the plan. General administrative comments by the DOC would be non-binding. An applicant operator who believes that DOC's review comments are not applicable or are inappropriate to the situation, and who is unable to resolve this difference with DOC, should be entitled to appeal to the SMGB for resolution. In this manner, reclamation plans submitted to a lead agency arrive already in compliance with minimum state standards. A lead agency retains the option of incorporating additional and more stringent reclamation requirements if it desires, and retains all permitting authority. This practice would ensure that there is a consistency in the adequacy of new reclamation plans throughout the state, thus providing for the universal application of minimum state reclamation standards, removing the burden from local lead agencies that do not have the technical expertise to properly evaluate proposed reclamation plans and practices, and require all new surface mine operators to meet the same minimum standards for consistency.

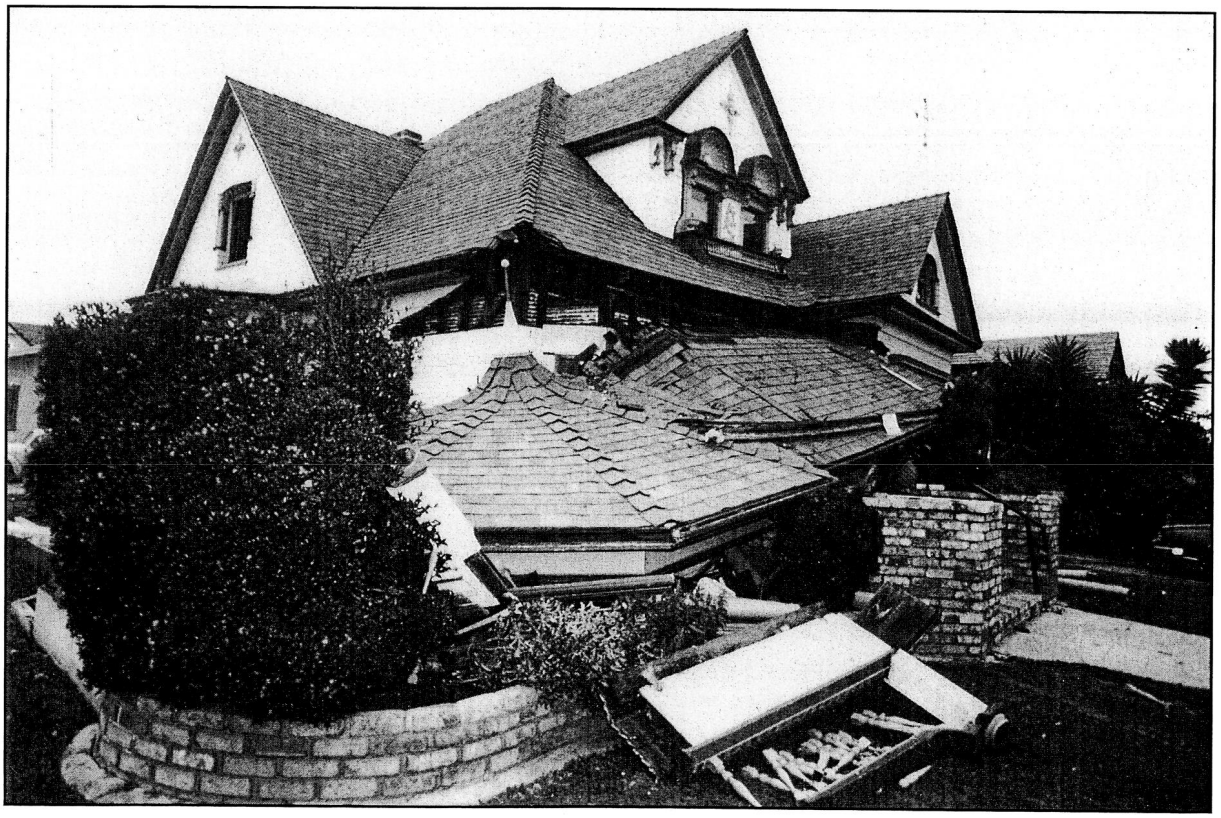
Appeal of Enforcement Orders: SMARA provides that any order for correction or cessation of a surface mining operation issued by the Director of DOC first must be reviewed in a public hearing by the SMGB before the order becomes effective [ref. PRC § 2774.1]. SMARA also imposes a minimum 30-day waiting period between the issuance of the Director's compliance order and the scheduling of the public SMGB hearing. This current process leads to unnecessary "bureaucratic" delay in the implementation of the order, and places the Director in the position of getting the SMGB's prior approval of an administrative order before the order can become effective.

It is the SMGB's contention that it serves a most important and useful role as an impartial quasijudicial appellate body, rather than an adjudicator of the evidence supporting the issuance of an administrative order before the order becomes effective, and before the recipient of the order indicates a grievance.

The SMGB recommends that administrative orders issued by the Director become effective upon issuance, and that following issuance, an aggrieved surface mine operator may then appeal the Director's order to the SMGB.

Assumption of Lead Agency SMARA Authority by the SMGB: Current SMARA provides that a local lead agency is the primary enforcer of the Act. When a lead agency does not enforce the Act, the only sanction that may be imposed against the errant lead agency is the assumption of the lead agency's SMARA authority by the SMGB for a minimum period of three years [ref. PRC § 2774.4]. The process of assumption, in practical terms, may take a minimum of six months to complete.

When an individual surface mine operator is in violation of SMARA, and the lead agency does not enforce against that operator, the DOC is required by statute to carry out enforcement. Narrowly construed, the lead agency's failure to



Collapse of a residence in Watsonville, during the 1989 Loma Prieta earthquake. *Photo by John K. Nakata, U.S. Geological Survey.*

enforce against an operator is a failure of the lead agency to perform its primary responsibility to enforce SMARA, and therefore the SMGB could act to assume the lead agency's SMARA authority. However, assumption of local authority is a draconian action, and in the past the SMGB has been reluctant to act against a lead agency unless there has been a general failure of the lead agency to enforce the requirements of SMARA throughout its jurisdiction. The SMGB recommends that, in addition to the present action allowing the SMGB to assume a lead agency's SMARA authority for a period of three years, that there also be lesser enforcement options available to the SMGB. One such option would be for the SMGB to have the authority to prohibit the lead agency from issuing new surface mining permits until the SMGB is satisfied that the lead agency is acting in accordance with SMARA. Under other SMARA provisions, the SMGB currently has the authority to assume lead agency authority for review and approval of new reclamation plans when the SMGB declares a lead agency's surface mining ordinance deficient, or when a lead agency does not have a surface mining ordinance.

The SMGB also recommends that the timelines for taking actions against a lead agency be left to the discretion of the SMGB, rather than mandated in statute. In this way, the SMGB may determine the appropriateness of time necessary to effect required changes in lead agency actions and processes, taking into account limitations that a lead agency may have and the extent of the failures to be corrected.

Mineral Resource Management Policies: Current SMARA provides that a city or county, upon receipt of a mineral land Classification report prepared by the State Geologist or mineral land Designation report from the SMGB, must prepare and incorporate into its General Plan Mineral Resource Management Policies (MRMP). The MRMP must be submitted to and reviewed by the SMGB for comment before adoption by the city or county [ref. PRC § 2762].

Although the SMGB has developed regulations describing the content and requirements of the MRMP in accordance with its statutory mandate to do so, the SMGB has no authority to enforce inclusion of the Act's requirements into the MRMP adopted by a city or county. Cities and counties are not required to accept the SMGB's review comments; therefore, a MRMP may be locally adopted that does not adequately meet the Act's minimum requirements.

The SMGB recommends that prior to a city's or county's adopted MRMP becoming effective, it must be certified by the SMGB as being in accordance with the Act and the SMGB's regulations. This is similar to the current requirement that the SMGB certify a lead agency's SMARA ordinance as being in accordance with SMARA's requirements prior to the ordinance taking effect.

Review of Lead Agency Report on Designated Mineral Lands by SMGB: Current SMARA requires that, prior to permitting a use that would threaten the potential to extract minerals in an area designated by the SMGB as having regional or statewide significance, the city or county shall prepare a statement specifying its reasons for permitting the proposed use. The city or county must consider its MRMP, must balance the designated mineral values against alternative land uses, and consider the importance of these minerals to their market region as a whole and not just their importance to the city's or county's area of jurisdiction [ref. PRC § 2763].

Although the SMGB concurs with the practice of allowing a city or county to determine its own land use activities, the SMGB also notes that current SMARA places the city or county in the awkward, and conflicting, position of having to determine if its well-being is less important than that of the surrounding jurisdictions. This is particularly manifested by the fact that a city or county is required to prepare and approve its own statement that "objectively" analyzes the merits and economics of permitting a develop-

ment on a mineral resource within its own jurisdiction, or of preserving access to that mineral resource so as to benefit surrounding communities, to which the city's or county's elected officials owe no allegiance. Designation by the SMGB of a mineral resource as having regional or statewide significance is based on extensive geological analysis and demand evaluations by the Division of Mines and Geology and the SMGB. Prior to a city or county making a determination to develop over a Designated mineral resource determined by the state as having significant economic importance, it would seem prudent to have the SMGB review and approve the locally developed statement and analysis for its adequacy in competently addressing the issues specified in the Act.

The SMGB recommends that, prior to a city or county permitting a use that would threaten the extraction of minerals from an area designated by the SMGB as having regional or statewide economic significance, that the SMGB must approve the city's or county's statement (analysis) as being in accordance with the issues specified in the Act.

District Committees: SMARA provides that the SMGB may establish District Committees throughout the state as technical advisory groups [ref. PRC § 2740]. The SMGB has not found it necessary to establish technical committees on a district basis.

The SMGB recommends that the establishment of District Committees as provided in SMARA be amended to allow the SMGB to establish technical committees without regard to geographic districts to assist the SMGB in carrying out the provisions of SMARA. Under the Seismic Hazards Mapping Act the SMGB is provided authority to establish a technical advisory committee without regard to artificial districts within the state.

Obsolete Sections – Remove: Current SMARA contains statutes that require actions by the DOC, a lead agency, or surface mine operator be performed by specific dates. These dates are long past, and the sections have become obsolete. These sections are: § 2770(b)(c)(d) and (i); and, § 2774.6. The SMGB recommends these sections be removed from SMARA as they are no longer applicable.

Alquist-Priolo Earthquake Fault Zoning Act

This Act became effective on March 7, 1973. Since that time it has been amended 11 times by the Legislature. The SMGB finds that implementing the requirements of this Act continues to provide for the health and safety of the public from losses that would be incurred by the construction of structures for human habitation across the surface traces of known active faults.

Seismic Hazards Mapping Act

This Act became effective on April 1, 1991. The SMGB finds that implementing the requirements of this Act continues to provide for the health and safety of the public from losses that would be incurred by the effects of strong ground shaking, liquefaction or other ground failure, landslides, and other seismic hazards caused by earthquakes.

Past funding mechanisms for this program have been erratic, and in some cases, unreliable. The SMGB recommends that a steady funding source be devised for the continuance of this program.